DOCUMENT RESUME

ED 299 278 TM 011 899

TITLE	Washington Statewide Assessment General Report: Grades 4, 8, and 10--Fall 1987.
INSTITUTION	Washington Office of the State Superintendent of Public Instruction, Olympia.
PUB DATE	Feb 88
NOTE	50p.
PUB TYPE	Reports - Evaluative/Feasibility (142) -- Statistical Data (110)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Academic Achievement; Basic Skills; Elementary Secondary Education; Grade 4; Grade 8; Grade 10; Language Tests; Mathematics Tests; Norm Referenced Tests; Public Schools; Reading Tests; *Scores; Spelling; *State Programs; *Testing Programs; Vocabulary Skills
IDENTIFIERS	*Metropolitan Achievement Tests; *Washington Statewide Assessment Program

ABSTRACT

This report describes the results of the October, 1987, state assessment of basic skills of all Washington public school students in grades 4, 8, and 10. More than 152,000 students were tested using the Metropolitan Achievement Tests, Sixth Edition. The first section of the report describes the general state level results for the involved grades. The second section describes the achievement of selected subpopulations of students. The third section reports results for school buildings based on common school and student characteristics. Subject areas for which basic skills are tested include reading, spelling, language skills, mathematics, and vocabulary. A "box and whisker" plot is used to graphically display the performance of Washington students. Seven data tables and 36 graphs are included. (TJH)

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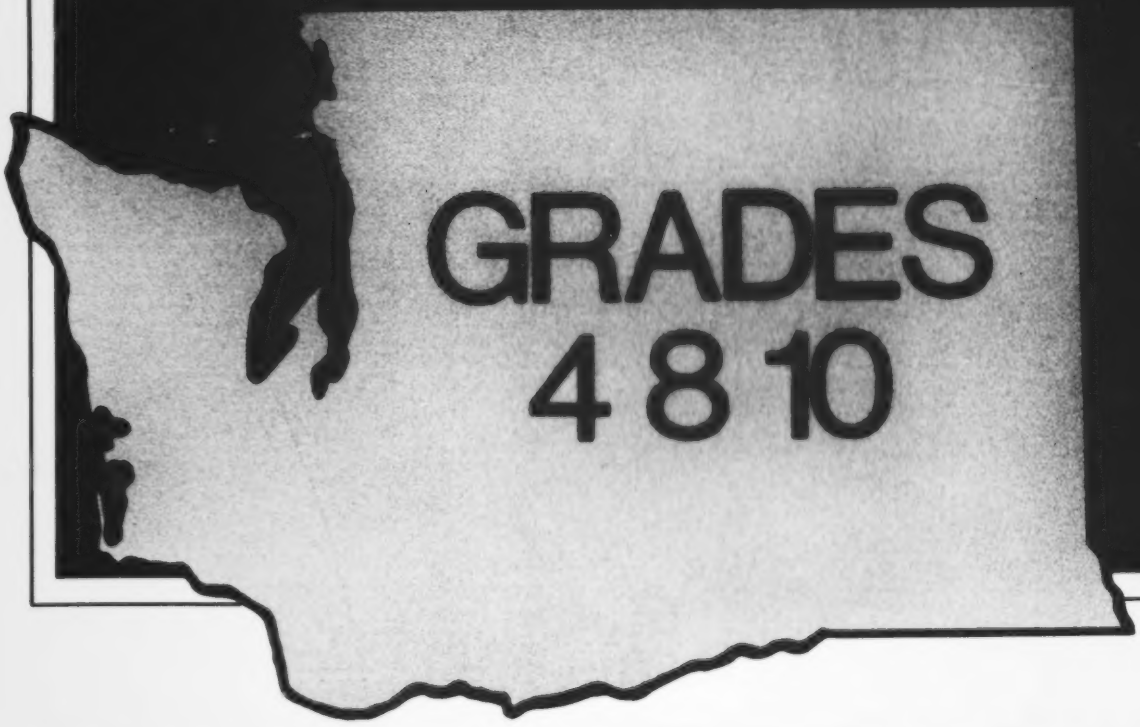
WASHINGTON
STATEWIDE ASSESSMENT



GRADES 4 8 10

FALL, 1987

GENERAL REPORT

TM 011 899

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WASHINGTON STATEWIDE ASSESSMENT

GENERAL REPORT

Grades 4, 8, and 10 -- Fall 1987

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This report is made in compliance with RCW 28A.03.360.

February, 1988

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INTRODUCTION

This State General Report is published pursuant to RCW 28A.03.360 and describes the results of the fall, 1987, assessment of reading, mathematics, and language skills of all Washington public school students in grades 4, 8, and 10. More than 152,000 students were tested with the Metropolitan Achievement Tests, 6th edition (MAT6).

The test results described in this report represent only a small, but important sampling of all the skills and knowledges that are taught in Washington schools. Many important areas were not tested. Further, any appropriate evaluation or comparison of the results should include test results across several points in time, as well as, other kinds of student information.

All school districts have been provided copies of their district, building, and individual student results. Persons wishing more detailed information about a particular district's or building's performance should contact that district or building directly.

The first section of this report describes the general state level results for grades 4, 8, and 10. The second section describes the achievement of selected subpopulations of students. The third section reports results for school buildings based on common school and student characteristics.

SECTION I

STATE LEVEL RESULTS

This report describes the basic skills achievement of Washington's public school students in grades 4, 8, and 10 as measured by the Metropolitan Achievement Tests (MAT6) administered in October, 1987. For each grade level tested and for selected subgroups of students, the average (median national percentile) score is reported.

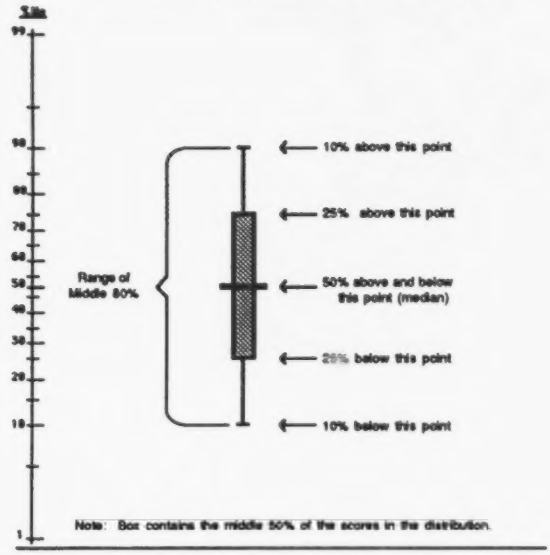
The median national percentile score describes the rank of the middle or average Washington student's score compared with the scores of students in the MAT6 national norm group. For example, a Washington median national percentile score of 62 means that, on a particular test, the middle or average student in Washington scored as high or higher than 62 percent of the students in the MAT6 norm group. Said another way, the score of the middle student in Washington (50% of Washington's scores are higher, 50% are equal to or lower) was selected as the "typical" score to represent Washington students' performance generally, compared to the national norm group performance.

By itself, a median national percentile score, or any "average" score, provides limited, and frequently misleading, information about a group's performance. Therefore, the following pages report Washington students' performance using a special graphic called a "box and whisker" plot. The box and whisker plot does report the median national percentile score for each group, but it also describes more completely <u>all</u> of the students' scores.

With the box and whisker plot, one can, for example, see how high the highest and low the lowest scores were -- the "spread" of scores. One can also readily compare the same group's high, average, and low scores on different tests or the high, average, and low scores of different groups on the same test. Still further, one can analyze the same group's growth over time, as well as, see the effects of special programs on the high, average, or low students in the group.

Figure 1 is an interpretive legend for the box and whisker plots that follow. In the box and whisker plots, the median national percentile score for each group is printed in the box at the horizontal bar which locates the median score relative to the vertical percentile scale.

FIGURE 1. BOX AND WHISKER PLOT
Interpretive Legend For Box And Whisker Plots of Distributions of Percentile Scores for Any Group



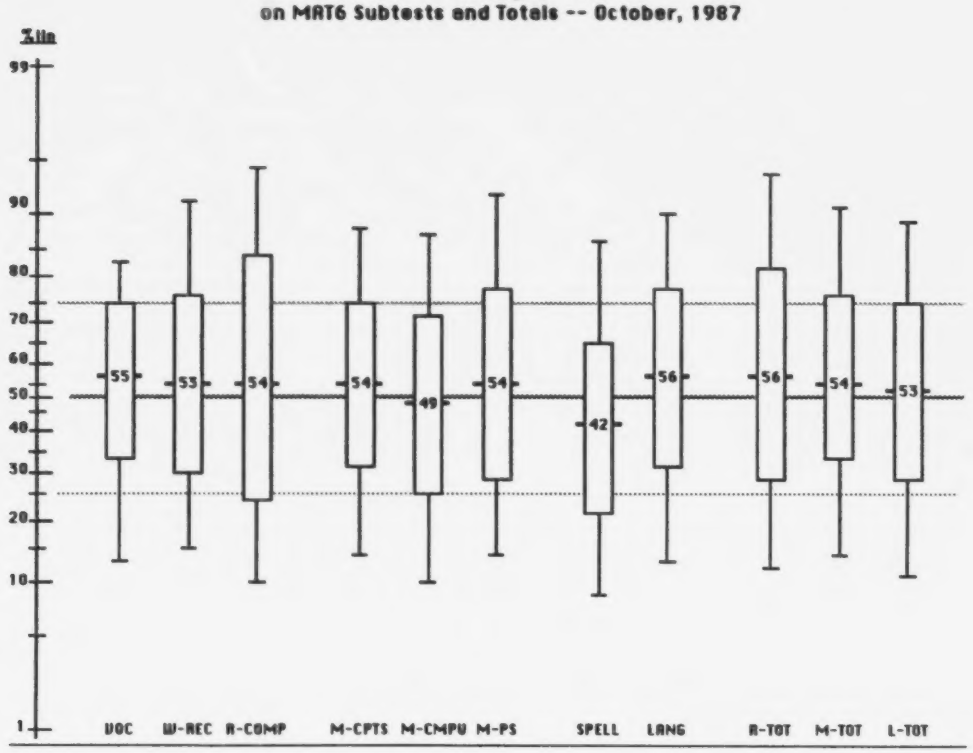
By way of comparison, the box and whisker in Figure 1 also describes the performance of the MAT6 national norm group on all subtests. That is, the national norm group's median percentile score is 50 for all tests. The "box" for the national norm group describes the middle 50 percent of the scores in the norm group ranging from a percentile rank of 75 down to 25. The "whiskers" for the national norm group always extend up from the box to 90 and down to 10. To the extent that Washington's performance differs from the MAT6 norm performance, the box and whisker plots will reflect those differences through the range of scores.

Figures 2, 3, and 4* summarize all Washington 4th, 8th, and 10th grade students' performance on each of the MAT6 subtests. Tables 1-4 report another aspect of reading performance. Tables 5 and 6 describe students' reported expectations for further schooling beyond high school. Figures 5, 6, and 7 contrast the achievement of highly mobile students (in the district one year or less) with those who have been in the same district for an extended period of time (four years or more).

Beginning on page 6 is a subsection which describes in detail each of the subtests on the MAT6 and indicates the average percentages of items answered correctly by Washington students compared with the MAT6 national norm group.

*In Figures 2, 3, and 4, VOC = Vocabulary, W-REC = Word Recognition, R-COMP = Reading Comprehension, M-CPTS = Math Concepts, M-CMPU = Math Computation, M-PS = Math Problem Solving, SPELL = Spelling, LANG = Language, R-TOT = Reading Total, M-TOT = Math Total, L-TOT = Language Total. Note also that not all subtests are included at all grade levels.

FIGURE 2. GRADE 4
Distributions of Washington Students' Scores
on MAT6 Subtests and Totals -- October, 1987



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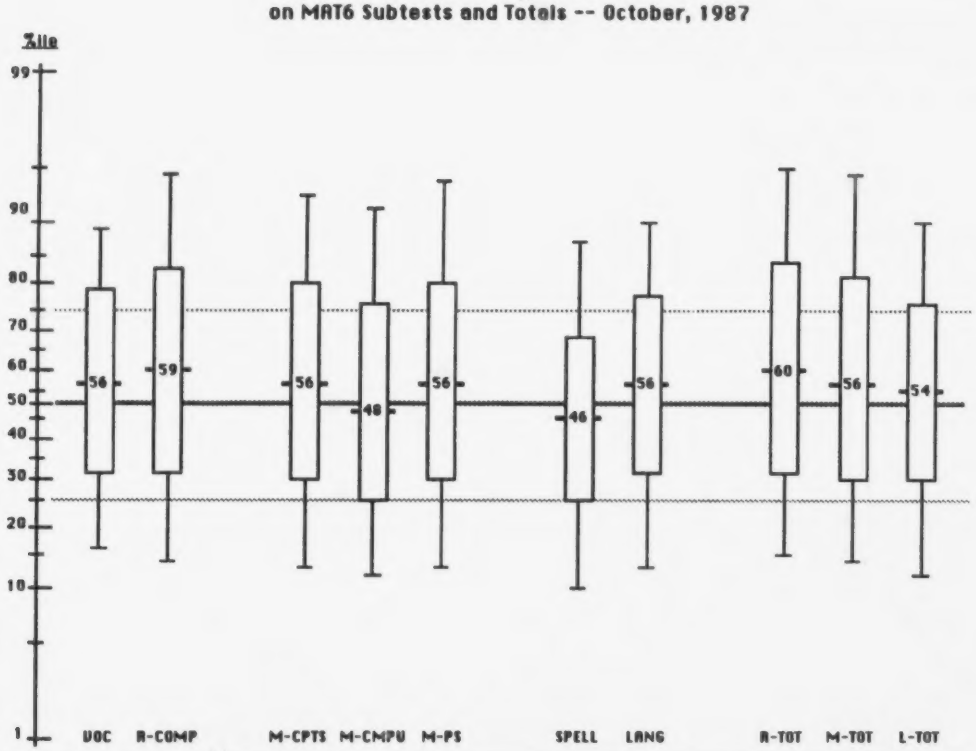
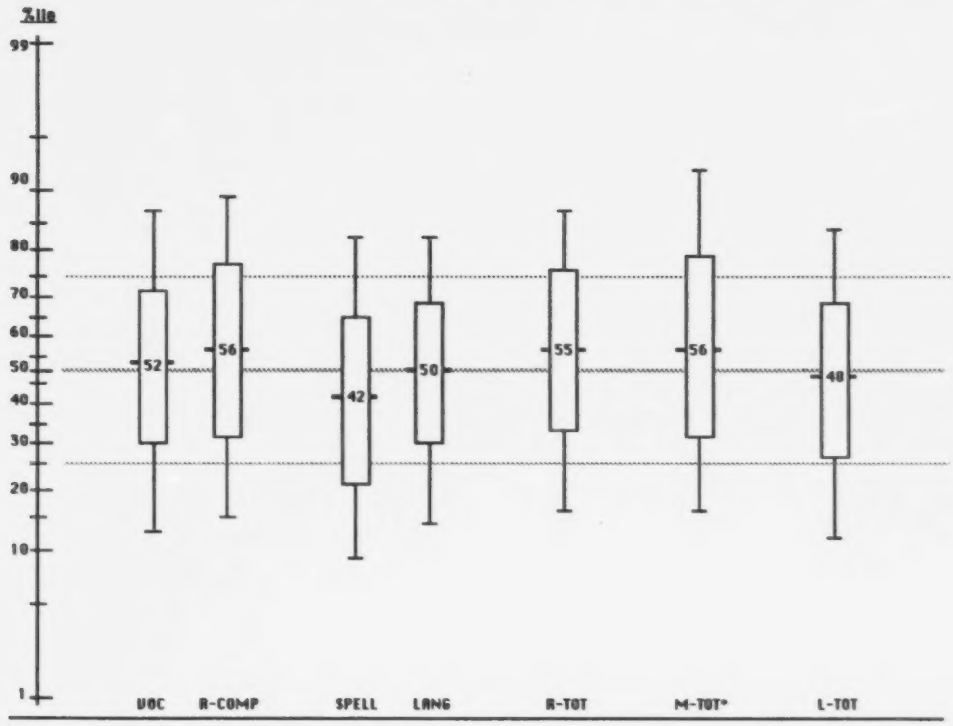


FIGURE 4. GRADE 10
Distributions of Washington Students' Scores on MAT6 Subtests and Totals -- October, 1987



*Only one mathematics test is given at grade 10, so only a mathematics total is reported.

Specific State Level Subtest Results By Grade

Following is a brief description of the skill content measured by the MAT6 in each of the subtest areas for grades 4, 8, and 10. In each case the average percentage of items answered correctly by Washington students (raw score) is compared with the average percentage of items answered correctly by the students in the corresponding national norm group.

Grade 4

The MAT6 Elementary Level Basic Battery contains tests in three content areas: reading, mathematics, and language. There are 8 subtests resulting in 12 scores (the 8 subtests plus total scores in reading, mathematics, and language, and a total battery score).

The Vocabulary Test contains 22 items that measure the meaning of words in context. The test is read by the pupil and Washington students answered an average of 86 percent correctly compared to 82 percent in the national norm group.

The Word Recognition Skills Test contains 29 items that measure phonemes/graphemes with consonants, vowels, and word part clues. There is a combination of teacher dictated and student read (printed) items. Washington students answered an average of 72 percent of the items correctly compared to 68 percent in the national norm group.

The Reading Comprehension Test contains 60 items that measure comprehension of 11 different reading passages. The reading levels of the passages begin at grade 2 and increase in difficulty to grade 6. The test items assess the pupil's ability to recognize detail and sequence; to infer meaning, cause and effect, main idea, and character analysis; and to draw conclusions. Washington students answered an average of 70 percent of the items correctly compared to 66 percent in the national norm group.

The Mathematics Concepts Test contains 35 items that measure numeration, geometry, and measurement. Number concepts beyond thousands, decimals and fractions, shapes, figures, money, time, and customary and metric measurement are assessed. Washington fourth graders answered 64 percent of the items correctly compared to 61 percent in the national norm group.

The Mathematics Problem Solving Test contains 30 items. The teacher dictates 10 of the 25 word problems. Some of the items require the pupil to solve the problem; others require only that the number sentence needed for solution be chosen. Graphs and statistics are measured by five items. Washington's fourth grade students answered an average of 64 percent of the items correctly compared to 59 percent in the national norm group.

The Mathematics Computation Test contains 30 items that measure computation with whole numbers and with decimals and fractions. Whole number items require addition and subtraction with and without regrouping and multiplication and division of basic facts and beyond with regrouping. Decimals and fractions items require addition and subtraction of fractions with like denominators and addition and subtraction with decimals. Washington's students and the norm group answered an average of 61 percent of the items correctly.

The Spelling Test contains 21 items. The pupil selects the correct spelling of a word dictated in a sentence. The levels of the spelling words are grades 3 to 5. Washington students answered 72 percent of the items correctly compared to 73 percent correct in the national norm group.

The Language Test contains 42 items, based on the rules for standard English, that measure punctuation, capitalization, usage, written expression, and study skills. The pupil selects correct punctuation, capitalization, grammatical forms, and identifies parts and types of sentences. The study skills measured are alphabetizing and dictionary skills. Washington students answered an average of 70 percent of the items correctly compared to 68 percent in the national norm group.

The Total Reading score is a combination of the vocabulary, word recognition, and comprehension subtests. The Total Mathematics score combines the concepts, problem solving, and computation subtests. The Language Total combines the spelling and the language subtests. The Basic Battery score represents a combination of the eight basic subtests.

Grade 8

The Advanced 1 Level Basic Battery contains tests in three content areas: reading, mathematics, and language. There are 7 subtests resulting in 11 scores (including the total subtest scores and the basic battery score).

The Vocabulary Test contains 24 items that measure the meaning of words in context. The test is read by the student. Washington's eighth graders answered an average of 85 percent of the items correctly compared to 81 percent in the national norm group.

The Reading Comprehension Test contains 60 items that measure comprehension of 10 different reading passages. The reading levels of the passages begin at grade 5 and increase in difficulty to grade 11+. The items assess the student's ability to recognize detail and sequence; to infer meaning, cause and effect, main idea, and character analysis; and to draw conclusions, to determine the author's purpose and to distinguish fact from opinion. Washington students answered an average of 75 percent of the items correctly compared to 71 percent in the norm group.

The Mathematics Concepts Test contains 35 items that measure numeration, geometry, and measurement. Number concepts beyond thousands, decimals, fractions, advanced concepts, functions and equations, geometry, and customary and metric measurement are assessed. Washington's students answered an average of 64 percent correctly compared to 61 percent in the norm group.

The Mathematics Problem Solving Test contains 30 items. Read by the student, the 24 word problems include multi-step items. Some of the items require the student to solve the problem while others require only that the number sentence needed for the solution be chosen. Graphs and statistics are measured by six items. Washington eighth graders answered an average of 72 percent correctly compared to 67 percent correct in the national norm group.

The Mathematics Computation Test contains 30 items that measure computation with whole numbers and computation with decimals and fractions. Whole number items require more complex addition, subtraction, multiplication, and division, together with estimation skills. Decimals and fractions items require the addition, subtraction, multiplication, and division of decimals, fractions, and mixed numbers. Percents and proportions are also assessed. Washington's eighth graders answered correctly 68 percent of the items compared to 66 percent correct in the norm group.

The Spelling Test contains 25 items. The student selects the correct spelling of a word missing from a printed sentence. The levels of the spelling words are grades 6 to 8. Both Washington's eighth grade students and the national norm group answered 68 percent of the items correctly.

The Language Test contains 50 items, based on the rules for standard English, that measure punctuation, capitalization, usage, written expression, and study skills. The student selects correct punctuation, capitalization, and grammatical forms; identifies parts and types of sentences; and demonstrates knowledge of sentence and paragraph structure. The study skills

measured are dictionary skills and use of reference sources. Washington students answered an average of 64 percent of the items correctly compared with 62 percent in the norm group.

As with the Elementary Level of the MAT6 (4th grade), the subtest totals on the Advanced 1 Level represent a combination of each of the relevant subtests and the battery total is a combination of all subtests.

Grade 10

The basic battery of the Advanced 2 Level of the MAT6 also contains tests in three content areas: reading, mathematics, and language. There are five subtests resulting in eight scores including a basic battery score. Computation and problem solving items are combined in one mathematics subtest and, therefore, only a single mathematics total score is reported.

The Vocabulary Test contains 24 items that measure the meaning of words in context. The test is read by the student. Of the 24 items, Washington tenth graders answered an average of 63 percent correct compared to 58 percent in the national norm group.

The Reading Comprehension Test contains 50 items that measure comprehension of 8 different reading passages. The reading levels of the passages begin at grade 6 and increase in difficulty to grade 11+. The items assess the student's ability to recognize detail and sequence; to infer meaning, cause and effect, main idea, and character analysis; and to draw conclusions, determine the author's purpose and distinguish fact from opinion. Washington students answered an average of 72 percent correctly compared to 69 percent correct in the norm group.

The Mathematics Test contains 55 items that measure numeration, geometry, measurement, problem solving, graphs and statistics, computation with whole numbers, and computation with decimals and fractions. Concepts of decimals and fractions, advanced concepts, functions and equations, geometry, and metric measurement are assessed.

The word problems include multi-step items and items with extra information. Graphs and statistics are measured by six items. Computation with whole number items require more complex addition, subtraction, multiplication, division, and estimation. Computation with decimals and fractions items require the addition, subtraction, multiplication, and division of decimals, fractions, and mixed numbers. Percents and proportions are also measured. Washington students answered 65 percent of the 55 items correctly compared to 61 percent correct in the norm group.

The Spelling Test contains 25 items. The student selects the correct spelling of a word missing from a printed sentence. The levels of the spelling words are grades 7 to 8 and above. Washington tenth graders spelled an average of 67 percent of the words correctly compared to 68 percent spelled correctly by the norm group.

The Language Test contains 48 items, based on the rules for standard English, that measure punctuation, capitalization, usage, written expression, and study skills. The student selects the correct punctuation, capitalization, and grammatical forms; identifies parts and types of sentences; and demonstrates knowledge of sentence and paragraph structure. The study skills measured are dictionary skills and use of reference sources. Washington's tenth graders answered 65 percent of the items correctly compared with 64 percent correct in the norm group.

A separate set of Technical Appendices contains a complete Group Item Analysis Report of the results for grades 4, 8, and 10 on the 1987 administration of the MAT6.

Functional Reading Level Performance

The MAT6 Reading Comprehension Test was patterned after the design of informal reading inventories. The MAT6 provides a range of graded reading passages appropriate for each test level (Elementary, Advanced 1, and Advanced 2) and controls the difficulty of the questions about each reading passage. This structure allows the MAT6 Reading Comprehension Test to yield three functional reading levels: independent, instructional, and frustration.

The independent reading level is determined by the material a student can read with ease and efficiency and comprehend 90 percent or more of the material read. Material at this level is a good choice for the student's free time or independent reading.

The instructional reading level is defined as the level at which a student should be instructed. The material is challenging enough so that some assistance is needed, but is not so difficult that it is frustrating. At the instructional level, students should be able to comprehend 70 to 75 percent of the material read.

The frustration reading level is defined as the level at which the reading becomes too difficult for the student even with some assistance. Students will generally comprehend 50 percent or less of the material at this difficulty level.

The MAT6 individual student reports provide the corresponding grade placement levels for the student's independent, instructional, and frustration reading levels as estimated by the Reading Comprehension subtest. The MAT6 group reports (called class, building, or system summaries) indicate the percentages of students whose instructional reading levels are estimated for each of the grade placement levels within the grade ranges tested. Tables 1, 2, and 3 summarize the ranges of instructional reading levels (IRL) for grades 4, 8, and 10 as estimated by the MAT6.

TABLE 1. GRADE 4
Number and Percent of Students by Instructional Reading Level (IRL)

IRL	Number	Percent
Grade 1	686	1
Grade 2	6,685	12
Grade 3	11,314	20
Grade 4	14,721	26
Grade 5	10,241	18
Grade 6	12,083	22

TABLE 2. GRADE 8
Number and Percent of Students by Instructional Reading Level (IRL)

IRL	Number	Percent
Grade 4	389	1
Grade 5	3,665	7
Grade 6	8,458	17
Grades 7-8	14,891	29
Grades 9-10	11,491	23
Grade 11+	12,000	24

TABLE 3. GRADE 10
Number and Percent of Students by Instructional Reading Level (IRL)

IRL	Number	Percent
Grade 5	935	2
Grade 6	2,502	5
Grades 7-8	8,841	18
Grades 9-10	24,107	48
Grade 11+	14,043	28

Table 4 reports the percentages of selected groups of students at grades 4, 8, and 10 whose independent reading levels were significantly below their grade level placement. In reviewing Table 4 two things need to be emphasized. First, it is to be expected that at any grade level a certain percentage of students will be reading below their actual grade placement, especially in terms of independent reading levels. Second, a difference of one year does not represent the same discrepancy across all grade levels. Generally speaking, a student who is one year behind in grade 4 has a much larger reading deficit than a student who is one year behind in grade 10. Therefore, the discrepancies reported by grade level in Table 4 are not equal (see footnote to Table) and caution should be used in comparing performance between grade levels.

TABLE 4. GRADES 4, 8, AND 10
Percent of Students Whose Independent Reading Level Was Significantly* Below Their Actual Grade Placement

	Grade 4	Grade 8	Grade 10
Female	30.2%	21.4%	18.3%
Male	38.0%	29.5%	26.2%
American Indian/ Alaskan Native	50.1%	42.3%	35.5%
Asian/Pacific Islander	35.6%	30.2%	27.4%
Black	54.8%	48.1%	39.0%
Hispanic	53.9%	45.2%	37.2%
White	31.4%	22.0%	20.0%
All	34.2%	25.2%	22.2%

*At grade 4, percent estimated at an independent reading level of grade 2 or below; at grade 8, percent estimated at an independent level of grade 5 or below; at grade 10, percent estimated at an independent level of grade 6 or below.

The apparent decreases in the percentages of students across grade levels reported in Table 4 should not necessarily be interpreted as real changes or improvements in performance. A more plausible explanation is the arbitrary nature of the criterion established for each grade level (see footnote to Table 4) inasmuch as the criteria may not represent equal deficits for each level.

A complete state level System Summary Report, including descriptions of the instructional reading levels, is included in the separate Technical Appendices.

Student and School Questionnaire Results

RCW 28A.03.360 requires the collection of student and school characteristics information to supplement the basic skills achievement scores. The student information is intended to assist students and parents in planning appropriate educational programs aligned with the interests and academic strengths of the students. The school questionnaire data, together with the student information, is also intended to provide an appropriate context for comparing student performance between schools with similar student and school characteristics, particularly as those characteristics might relate to student achievement. Following are some selected results from the student questionnaire. The complete responses to the student questionnaires together with the group test scores associated with each response are contained in the separate Technical Appendices.

One question of particular interest to many educators is the relationship between school achievement and the length of time students have been in the same district. Figures 5, 6, and 7 compare the results for students who have been in their districts four or more years (non-mobile) with students who have only been in the district for the prior or current year (mobile). Clearly, at all grade levels, the box and whisker plots indicate that those students who are non-mobile out perform those students who are mobile (new to their districts within the previous 14 months). It is also worth noting that over 20 percent of the students at all levels reported that they first enrolled in the district the previous or current year, whereas 53 percent in grade 4, 61 percent in grade 8, and 64 percent in grade 10 reported having first enrolled in the district four or more years ago.

FIGURE 6. GRADE 8
Distributions of Mobile and Non-Mobile Students' Scores on MAT6 Reading, Math, and Language Totals -- October, 1987

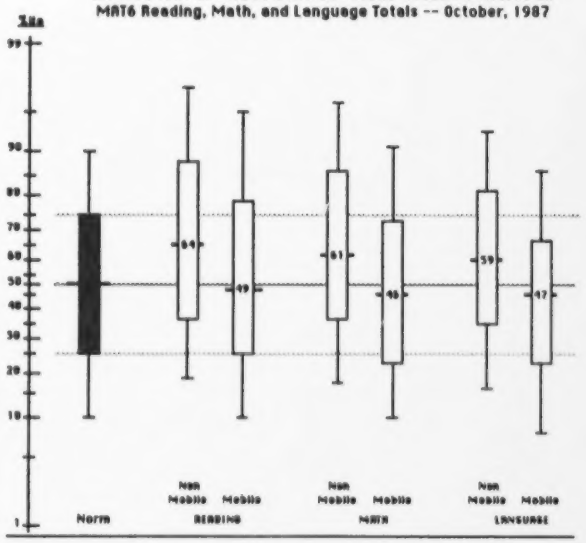


FIGURE 5. GRADE 4
Distributions of Mobile and Non-Mobile Students' Scores on MAT6 Reading, Math, and Language Totals -- October, 1987

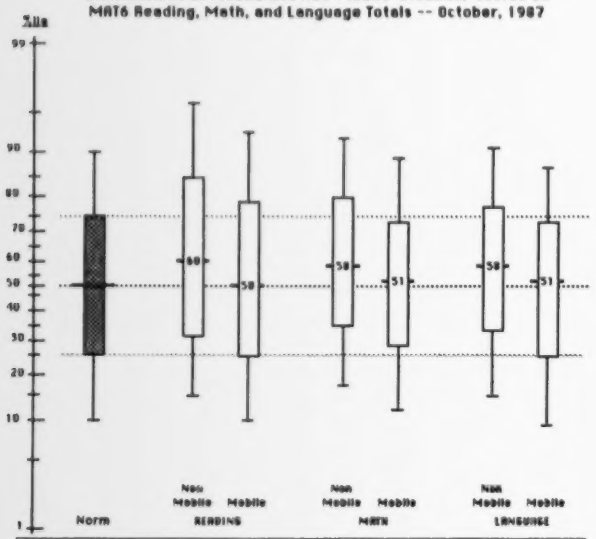
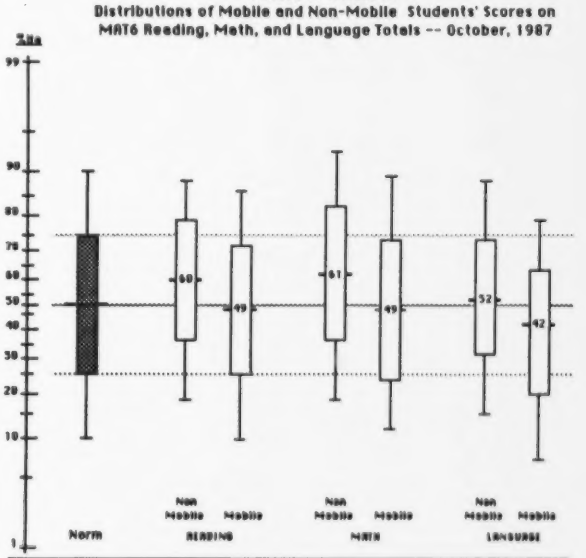


FIGURE 7. GRADE 10
Distributions of Mobile and Non-Mobile Students' Scores on MAT6 Reading, Math, and Language Totals -- October, 1987



Significant numbers of students at all levels indicated they need more help in reading, math, and study skills and the performance on the MAT6 for these students was substantially lower than that of students expressing no need for extra help. At the eighth and tenth grades approximately two-thirds of the students indicated they felt the need for at least some extra help with academic or career planning.

Tables 5 and 6 summarize the level of education expected by selected subpopulations of students. At both the eighth and tenth grades there was a strong, positive relationship between the expectation of more years of schooling and higher scores on the MAT6.

About 11 percent of both the eighth and tenth graders indicated they expected to complete no more than a high school diploma, whereas about 20 percent of the eighth graders and 24 percent of the tenth graders expected to complete a two-year post high school vocational or academic program. Another 51 percent of the eighth graders and 46 percent of the tenth graders expected to complete at least a four-year college degree.

The complete Student Questionnaire responses are included in the separate Technical Appendices.

TABLE 5. GRADE 8
Percent of Selected Groups
of Students Indicating
"How Far in School They Think They Will Get"

Group	High School Degree or Less	Some Trade School or Comm. Coll.	4-Years College or More
Female	10.3%	29.9%	59.9%
Male	14.9%	29.0%	56.1%
American Indian/ Alaskan Native	21.4%	35.4%	43.2%
Asian/Pacific Islander	8.9%	24.7%	66.4%
Black	10.6%	32.7%	56.7%
Hispanic	21.5%	33.9%	44.6%
White	12.0%	29.2%	58.8%
All	12.6%	29.6%	57.8%

TABLE 6. GRADE 10
Percent of Selected Groups
of Students Indicating
"How Far in School They Think They Will Get"

Group	High School Degree or Less	Some Trade School or Comm. Coll.	4-Years College or More
Female	9.1%	37.4%	53.6%
Male	14.8%	34.2%	51.1%
American Indian/ Alaskan Native	21.0%	42.8%	36.2%
Asian/Pacific Islander	7.4%	25.7%	66.9%
Black	10.5%	37.7%	51.7%
Hispanic	20.3%	41.1%	38.7%
White	11.5%	36.0%	52.4%
All	11.9%	35.9%	52.2%

SECTION II

SPECIAL SUBPOPULATIONS

In this section the MAT6 test results for grades 4, 8, and 10 are reported by sex and ethnic/minority category and by students receiving services in state funded Highly Capable Student programs, Handicapped programs (excluding learning disabled), Learning Disabled, any compensatory reading, math, or language program (combined to include Chapter 1, state Learning Assistance Programs, and Chapter 1-Migrant programs) or state funded Bilingual/ESL education programs. See page 4, Section 1 for the interpretive legend for the box and whisker plots in Figures 8-26 of this section.

Because of the extreme score distributions for some of the groups in Figures 8-26, the box and whisker plots in some cases are truncated at the high or low end of the percentile scale.

Table 7 reports the numbers (N-Counts) of students included in each of the special student subpopulations described in Figures 8-26.

TABLE 7. GRADES 4, 8, AND 10
Numbers* of Students in Special Subpopulations

Subpopulation	Grade 4	Grade 8	Grade 10
Male	26,856	24,532	23,883
Female	26,297	23,709	23,237
American Indian/ Alaskan Native	963	2,287	1,658
Asian/Pacific Islander	2,214	2,680	2,693
Black	2,043	1,673	1,509
Hispanic	2,223	1,751	1,533
White	38,111	39,479	39,093
Highly Capable	1,883	1,629	440
Handicapped	327	299	218
Learning Disabled	2,347	1,775	1,323
Compensatory Reading	4,670	1,319	348
Compensatory Math	3,186	1,269	88
Compensatory Language	598	788	239
Bilingual/ESL	567	384	379

*Numbers who took Basic Battery of the MAT6.

FIGURE 8. GRADE 4
Distributions of Male and Female Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

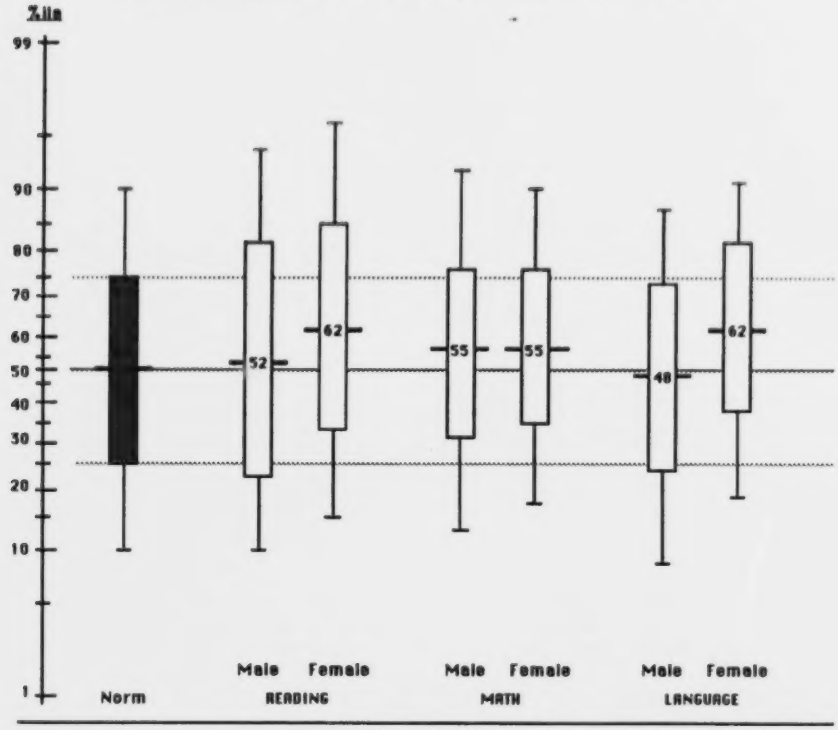


FIGURE 9. GRADE 8
Distributions of Male and Female Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

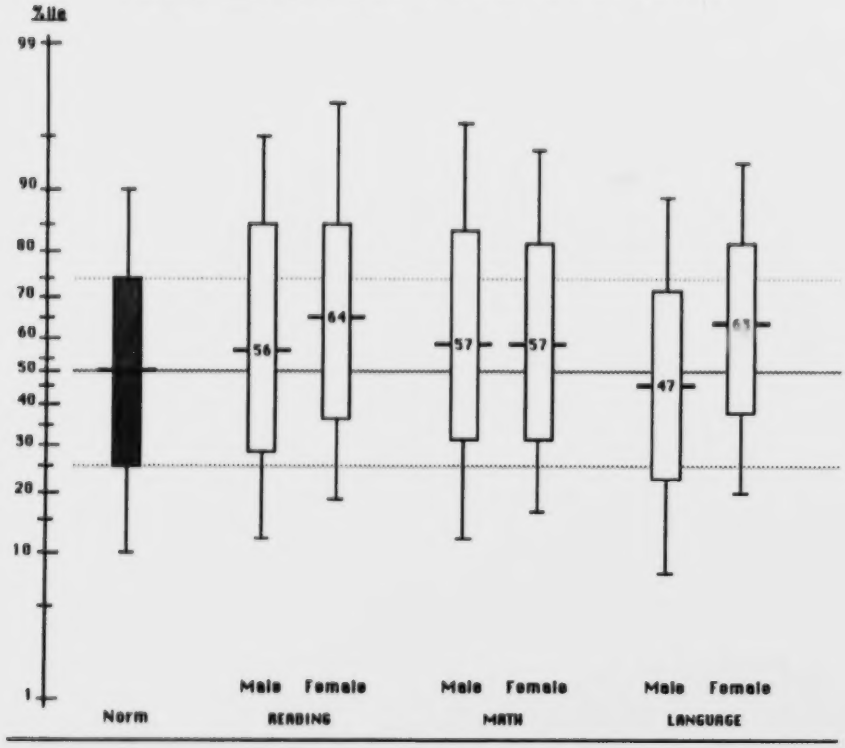


FIGURE 10. GRADE 10
Distributions of Male and Female Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

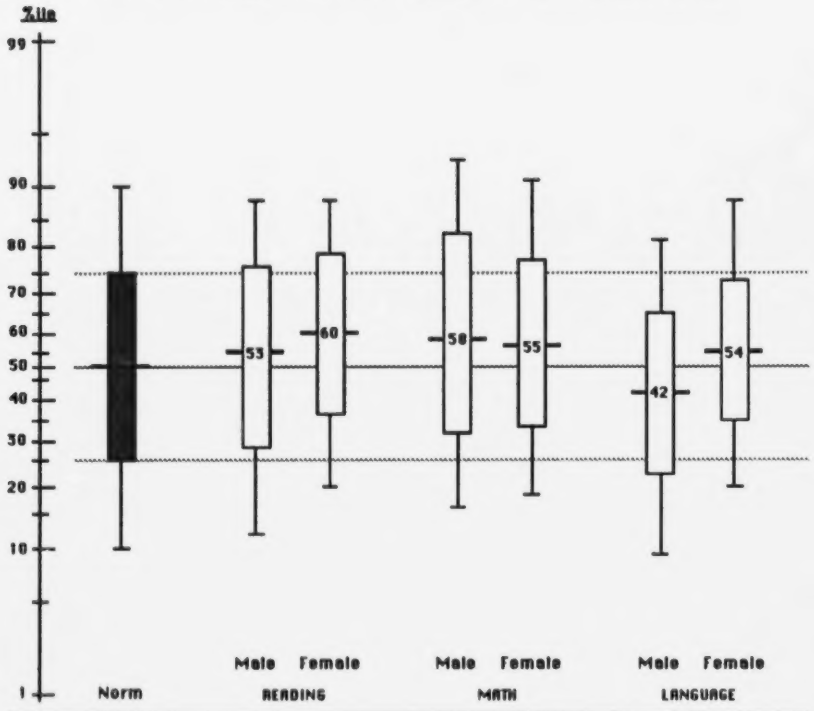


FIGURE 11. GRADE 4
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Reading -- October, 1987

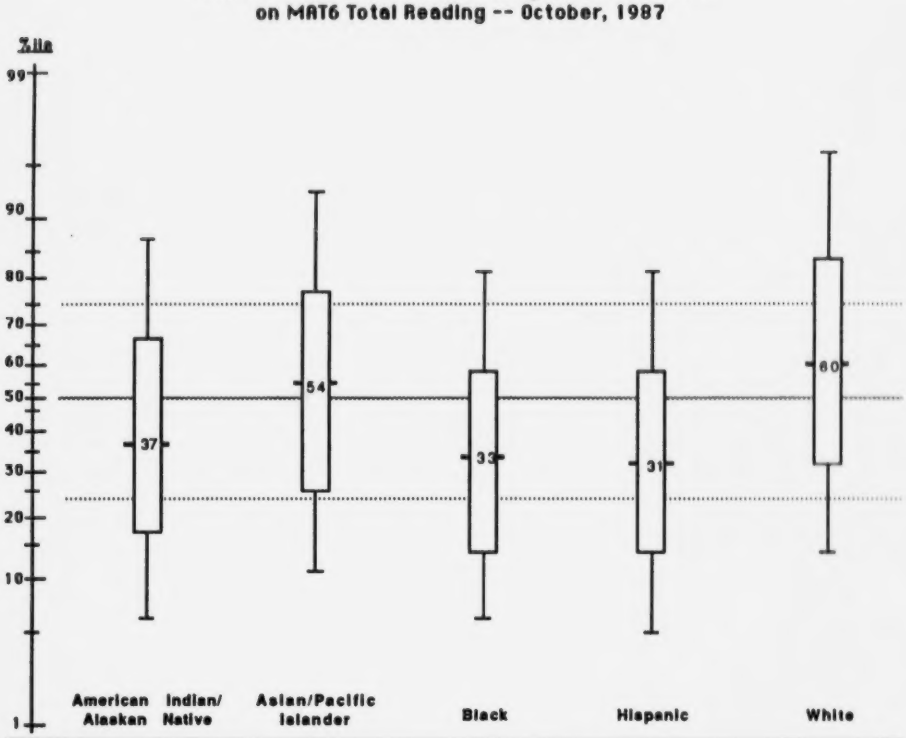


FIGURE 12. GRADE 4
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Math -- October, 1987

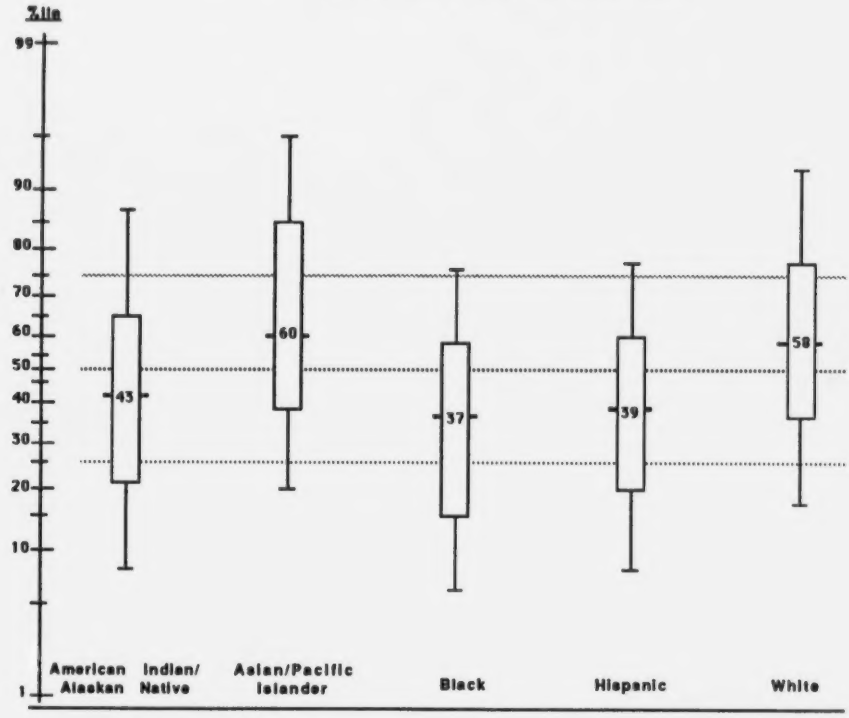


FIGURE 13. GRADE 4
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Language -- October, 1987

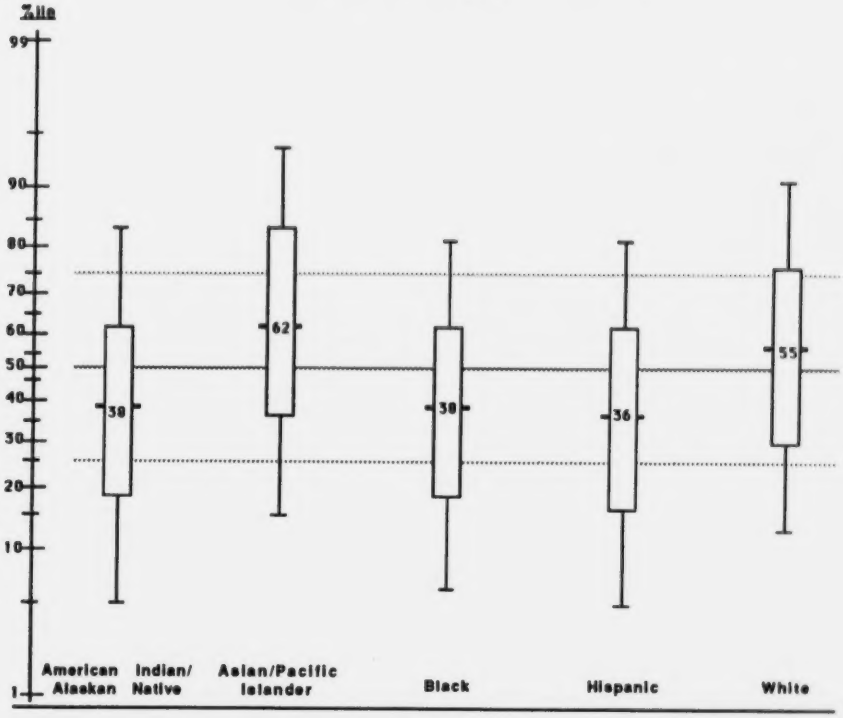


FIGURE 14. GRADE 8
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Reading -- October, 1987

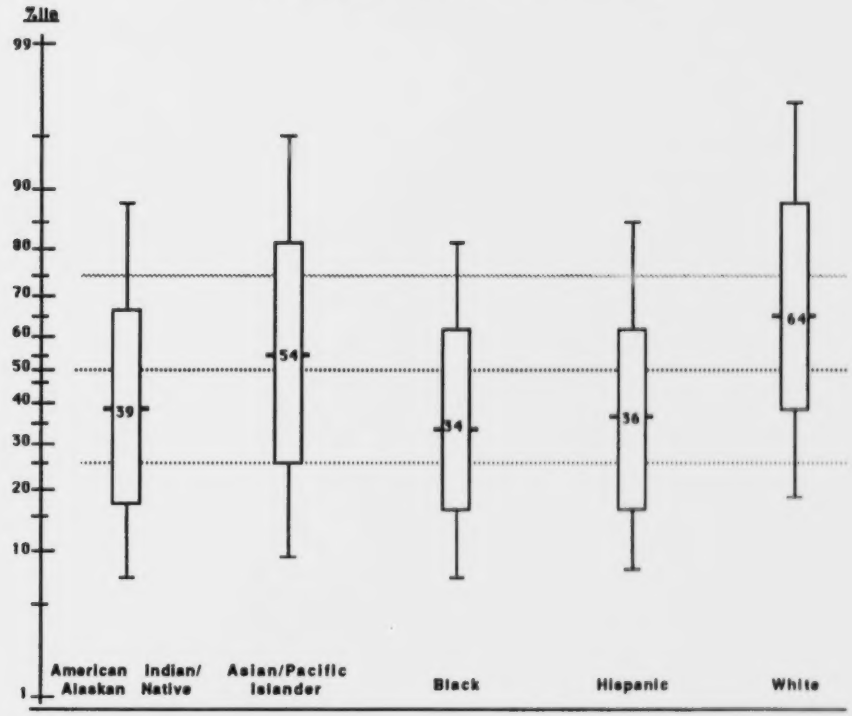


FIGURE 15. GRADE 8
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Math -- October, 1987

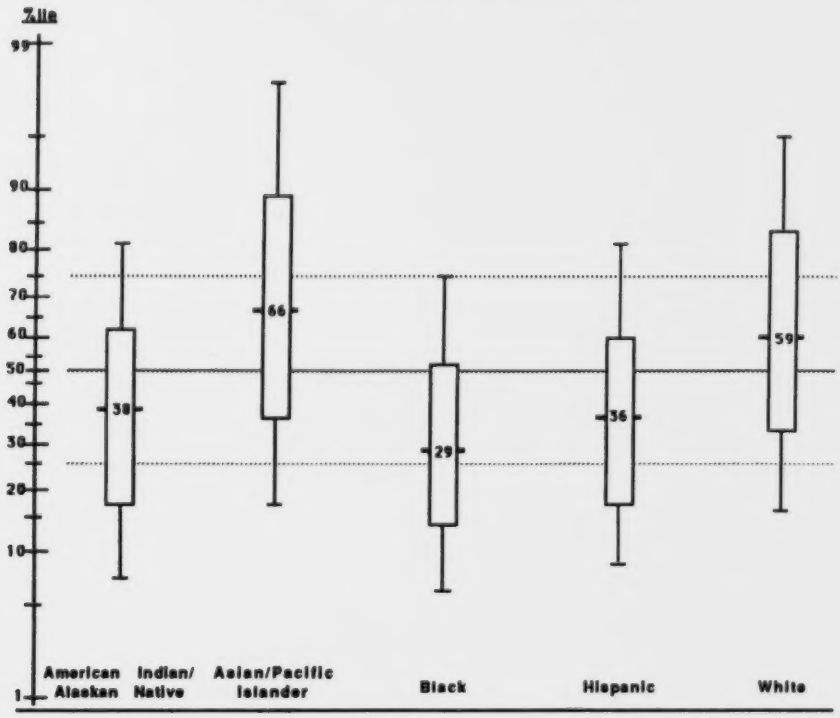


FIGURE 16. GRADE 8
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Language -- October, 1987

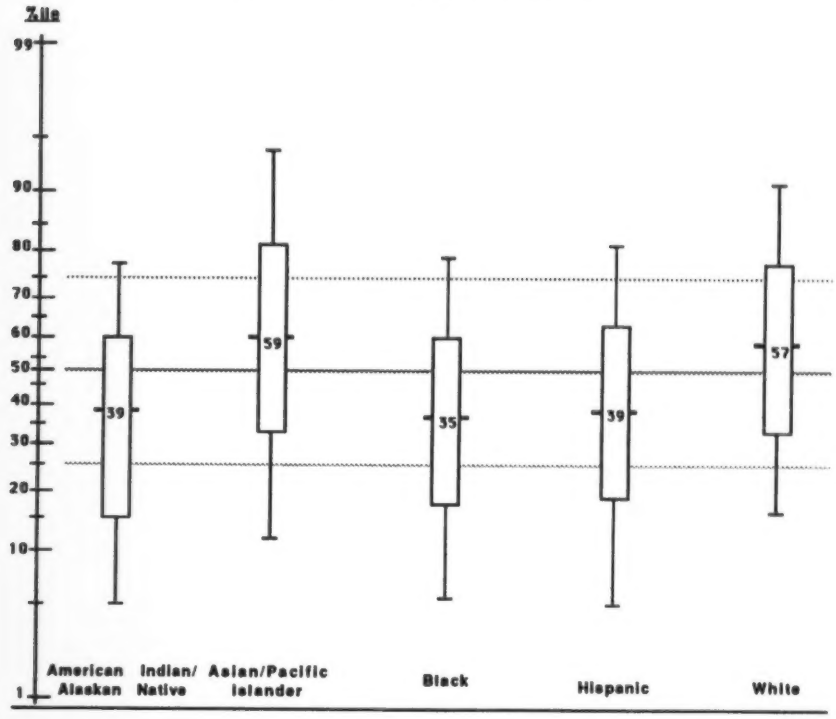


FIGURE 17. GRADE 10
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Reading -- October, 1987

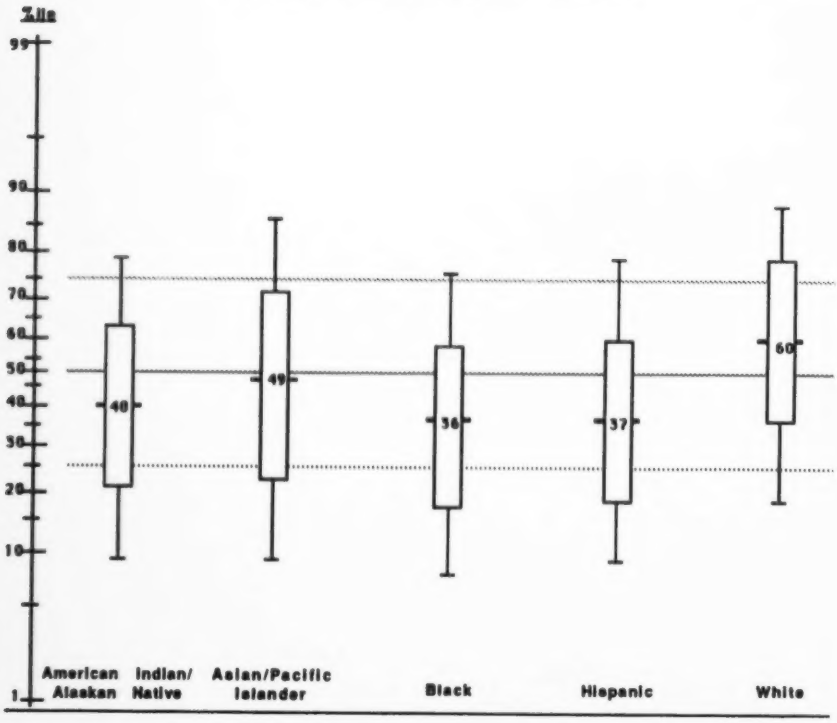


FIGURE 18. GRADE 10
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Math -- October, 1987

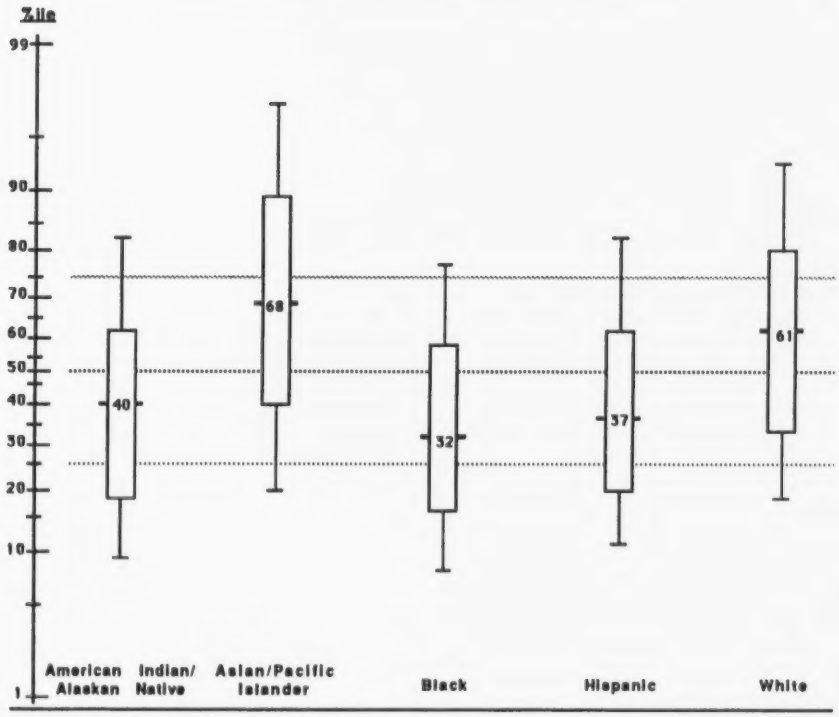


FIGURE 19. GRADE 10
Distributions of Ethnic/Minority Students' Scores
on MAT6 Total Language -- October, 1987

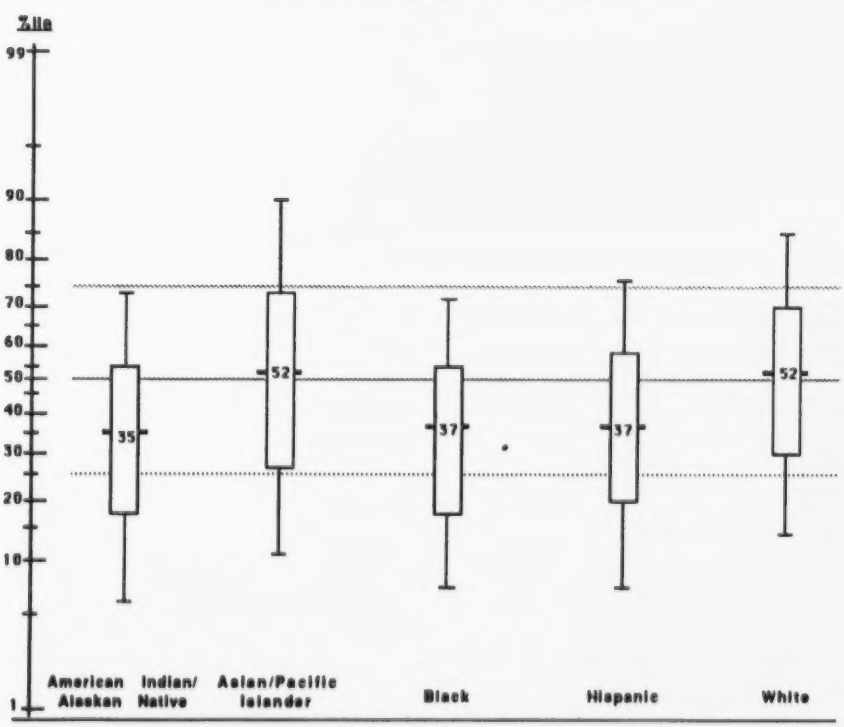


FIGURE 20. GRADES 4, 8, and 10
Distributions of Highly Capable Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

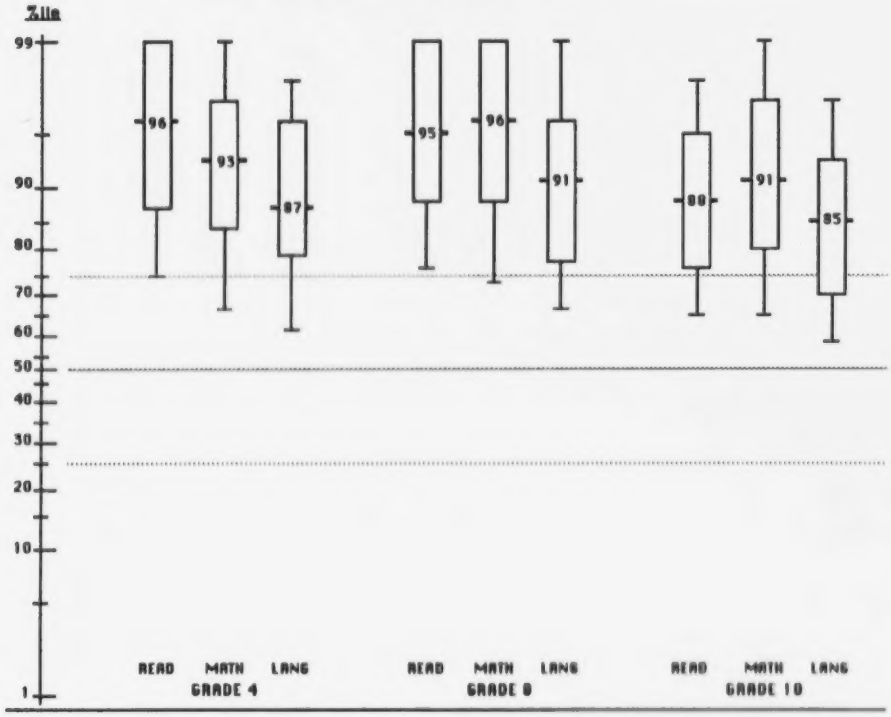


FIGURE 21. GRADES 4, 8, and 10
Distributions of Handicapped Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

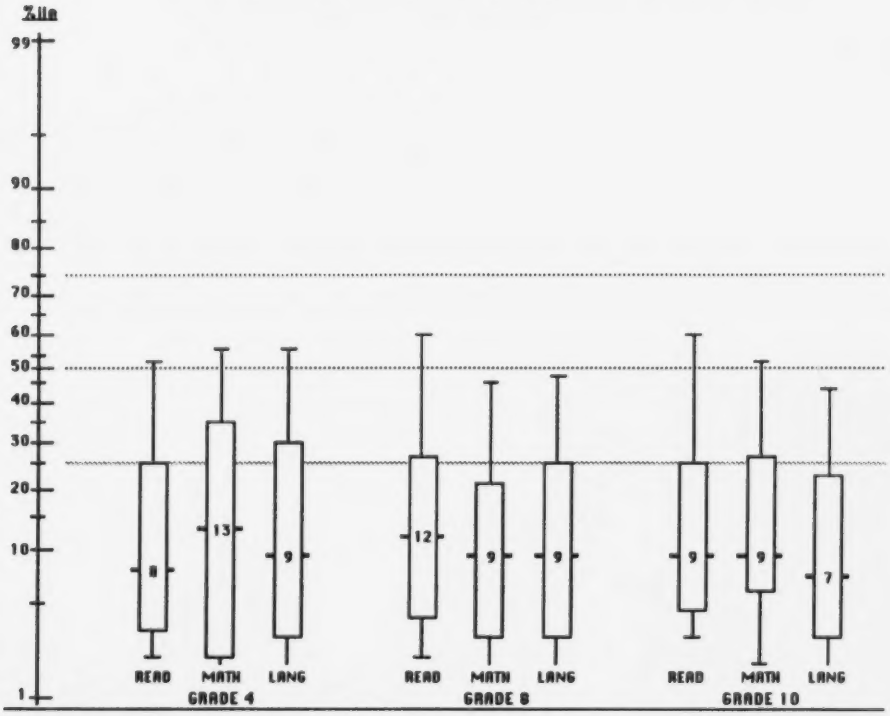


FIGURE 22. GRADES 4, 8, and 10
Distributions of Learning Disabled Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

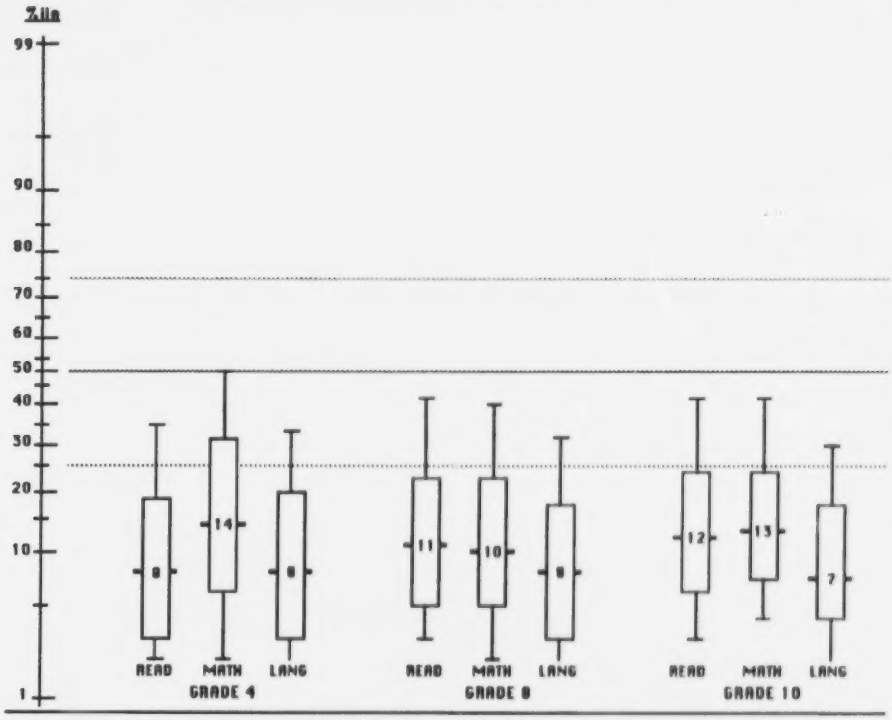


FIGURE 23. GRADES 4, 8, and 10
Distributions of Compensatory Reading Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

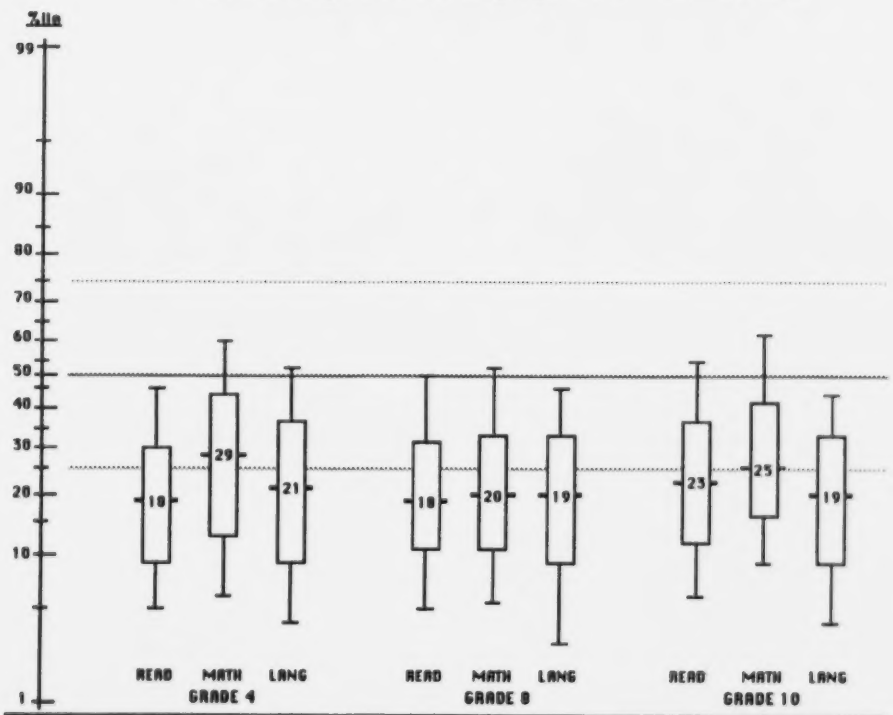


FIGURE 24. GRADES 4, 8, and 10
Distributions of Compensatory Math Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

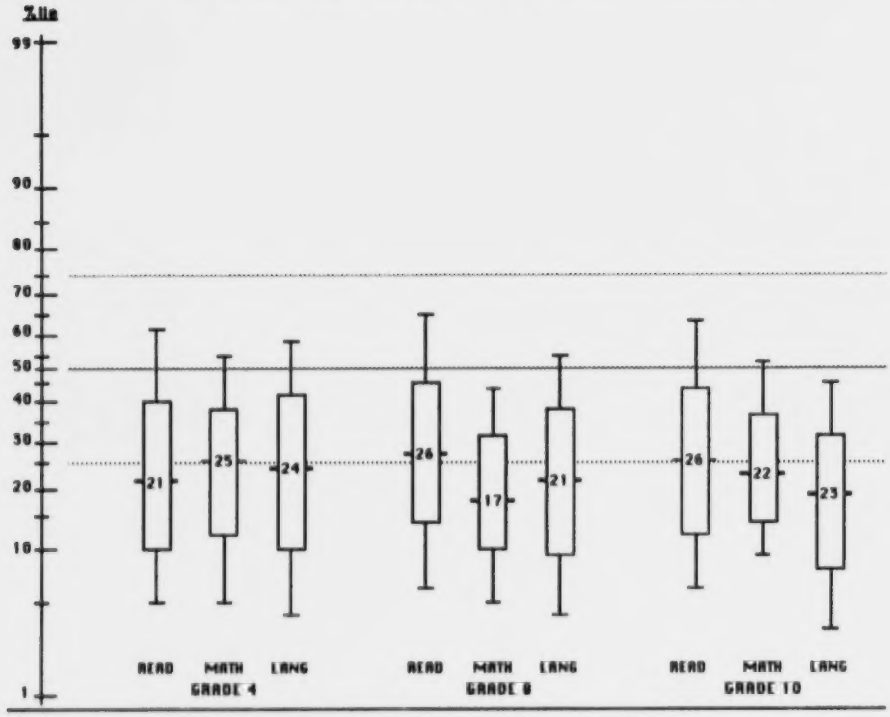


FIGURE 25. GRADES 4, 8, and 10
Distributions of Compensatory Language Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987

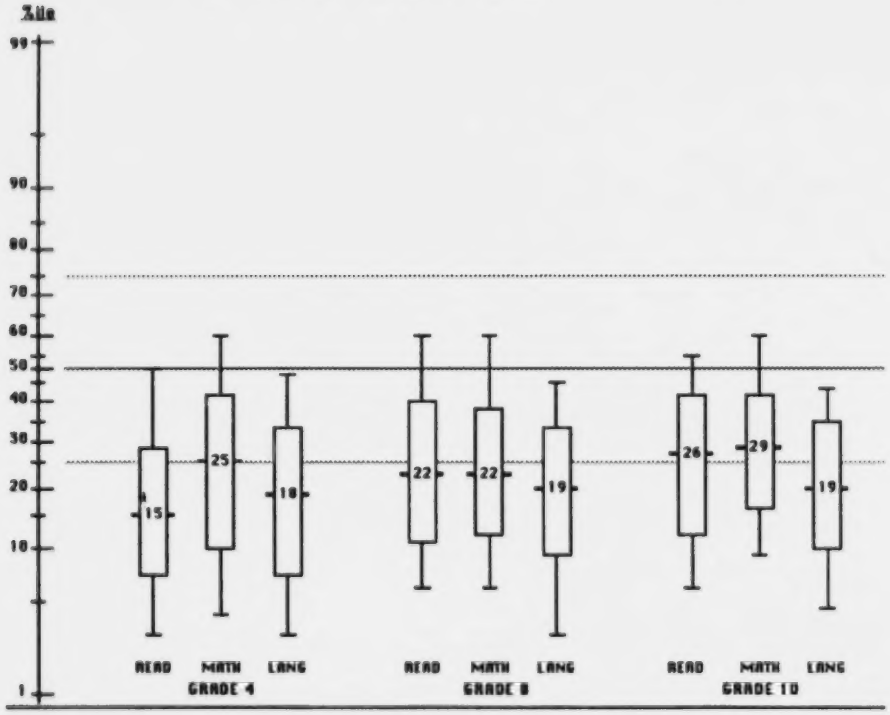
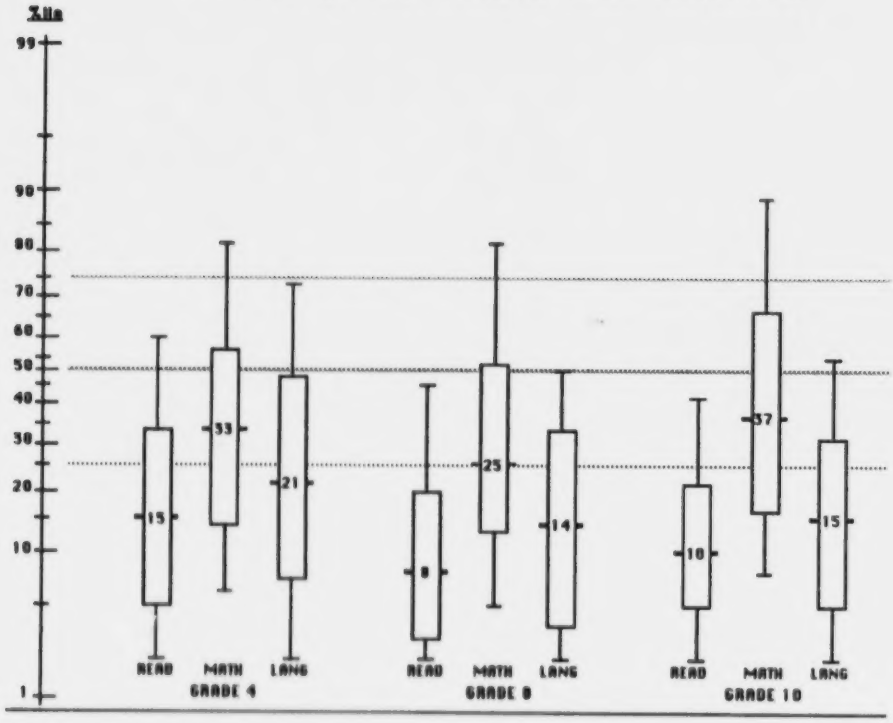


FIGURE 26. GRADES 4, 8, and 10
Distributions of Bilingual/ESL Students' Scores on
MAT6 Reading, Math, and Language Totals -- October, 1987



SECTION III

SCHOOL BUILDING COMPARISON GROUPS

This section describes the average range (middle 50%) of performance for school buildings which share common characteristics related to student achievement. The buildings were placed in comparison groups on the basis of information gathered from school and student questionnaires. Variables from the questionnaires were identified which related significantly to achievement differences among buildings. The selected variables, together with their abbreviated labels, selection criterion, source of information (in parentheses), and number of buildings represented in each comparison group are as follows:

All = All Buildings*
Grade 4, N = 955; Grade 8, N = 396; Grade 10, N = 332

Ch1 = ECIA Chapter 1 Eligible Buildings (School Questionnaire)
Grade 4, N = 418; Grade 8, N = 167; Grade 10, N = 113

NCh1 = Non-ECIA Chapter 1 Eligible Buildings (School Questionnaire)
Grade 4, N = 213; Grade 8, N = 90; Grade 10, N = 94

LIn-L = Percent of Low Income Students in Building is 20 or Less (School Questionnaire)
Grade 4, N = 309; Grade 8, N = 128; Grade 10, N = 122

LIn-A = Percent of Low Income Students in Building is 21 to 40 (School Questionnaire)
Grade 4, N = 252; Grade 8, N = 102; Grade 10, N = 62

LIn-H = Percent of Low Income Students in Building is 40 or Greater (School Questionnaire)
Grade 4, N = 164; Grade 8, N = 32; Grade 10, N = 31

NewS = Percent of Students New to District Within the Past 2 Months is 15 or More (Student Questionnaire)
Grade 4, N = 120; Grade 8, N = 39; Grade 10, N = 35

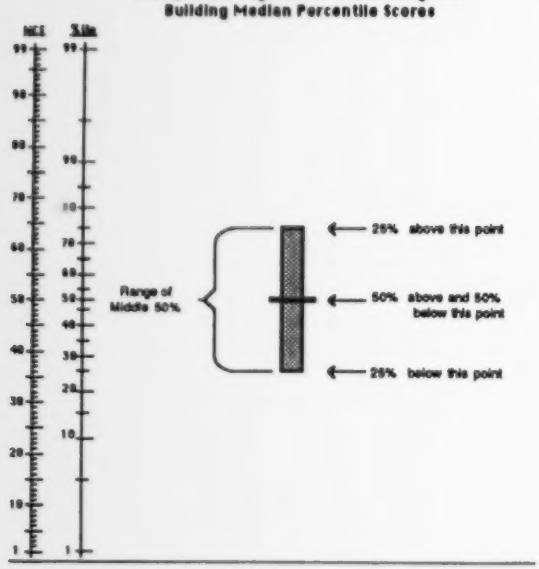
HPC = Percent of Students Reporting Having a Personal Computer at Home is 45 or More (Student Questionnaire)
Grade 4, N = 163; Grade 8, N = 91; Grade 10, N = 58

SBldg = Number of Students With Test Scores is 24 or Less
Grade 4, N = 129; Grade 8, N = 80; Grade 10, N = 71

*Buildings testing 24 or fewer students were excluded from the distributions except for the "All Buildings" (All) and the "Small Buildings" (SBldg) categories.

Each figure that follows describes the range of performance for the middle 50 percent of the buildings in a particular comparison group. The indicator used to determine these typical performance ranges was the "Median National NCE" for each building meeting a particular comparison group criterion. These typical or middle ranges are portrayed as modified box and whisker plots, "boxes", in the figures. (Because there are relatively small numbers of buildings in some of the groups, the "whiskers" were omitted from these plots.) Within each box, the heavy horizontal bar marks the midpoint among all buildings making up the comparison group. Half the buildings in each comparison group have median national NCEs falling above the bar and half would have median NCEs equal to or below the bar. Each figure's vertical axes is labeled with both an NCE scale and a Percentile Rank Scale. The NCE scale is more convenient for plotting data points while the Percentile Rank Scale is more useful for interpretation and explanation. Figure 27 is a legend for interpreting the modified box and whisker plots.

FIGURE 27. MODIFIED BOX AND WHISKER PLOT
Interpretive Legend for Middle Ranges of Building Median Percentile Scores



Building or district staff can use Figures 28 through 36 to compare a building's performance with that of schools in a common comparison group. First, identify the relevant comparison groups based upon the information contained on the 1987 Student Questionnaire Report for the building and provided on the building's 1987 School Questionnaire. Using the criterion description for each of the comparison groups (see page 25) and the appropriate questionnaire report, determine in which comparison groups the building belongs.

Second, go to page 1 of the Administrator's Data Summary for the building and find the row labeled "MEDIAN NATIONAL NCE - 50TH" and read across this row until you find the entry for the subtest of interest. Round this value to the nearest whole number and mark its position on the two outside scales (labeled "NCE") of the appropriate subtest figure in this section. Third, using a straight edge, connect these two points with a line. The building's performance indicator (the line) can now be used to compare the building's performance with the relevant comparison groups. The line crossing through the box indicates building performance in the average range (above the box indicates above average performance, below the box indicates below average performance) compared to all similar buildings.

FIGURE 28. GRADE 4, READING
Middle Ranges of Building Median Percentile Scores

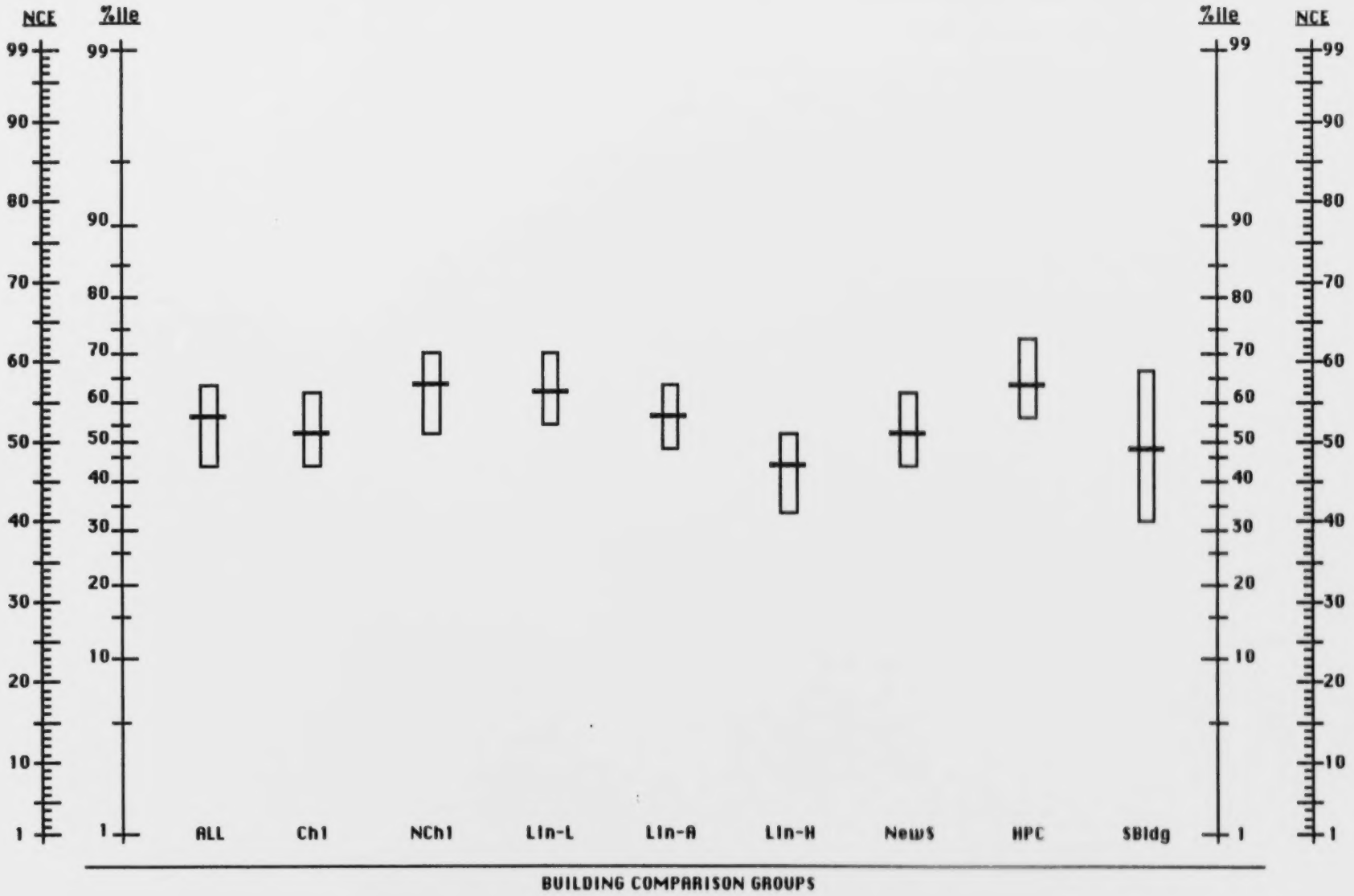


FIGURE 29. GRADE 4, MATH
Middle Ranges of Building Median Percentile Scores

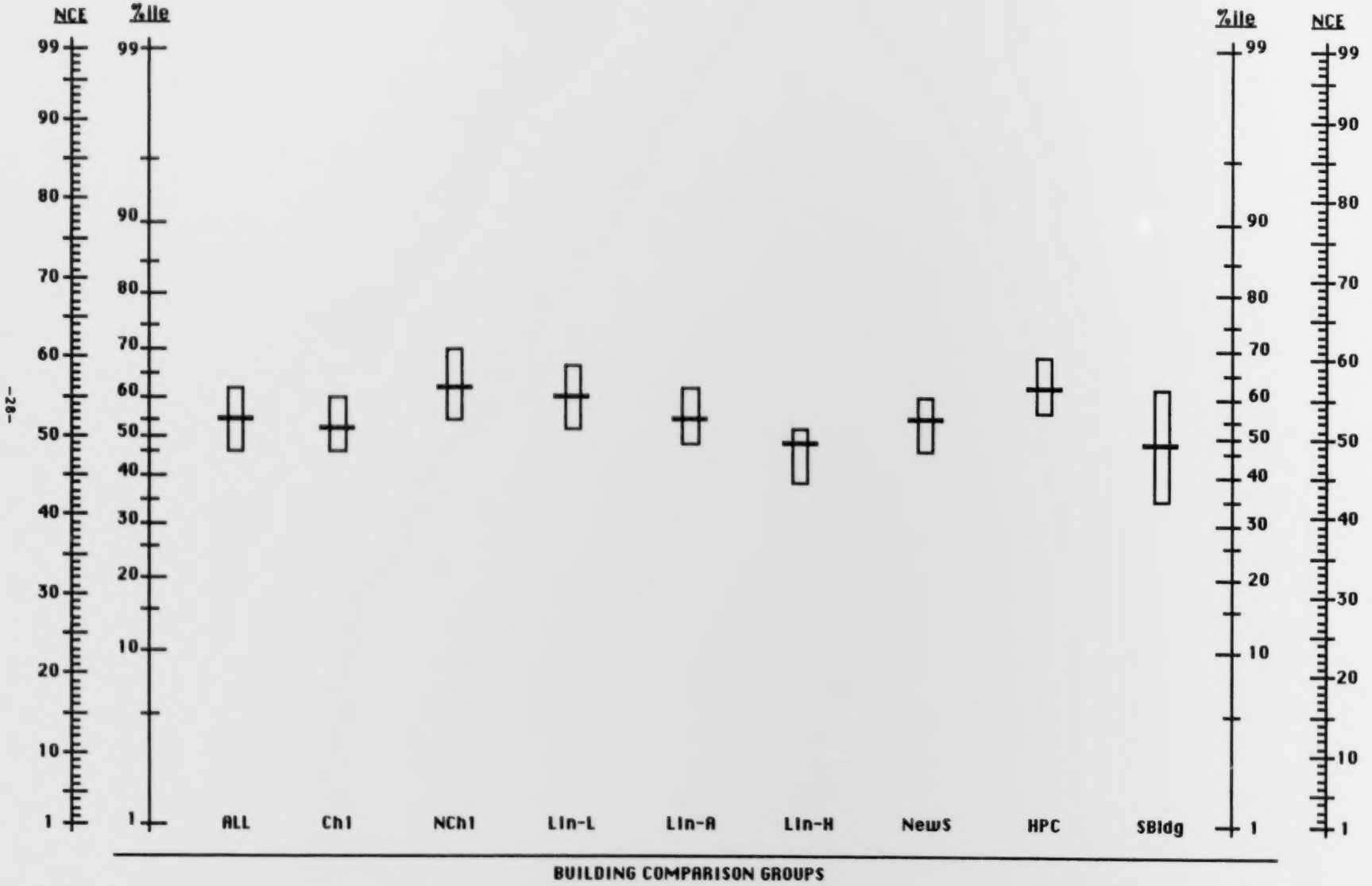


FIGURE 30. GRADE 4, LANGUAGE
Middle Ranges of Building Median Percentile Scores

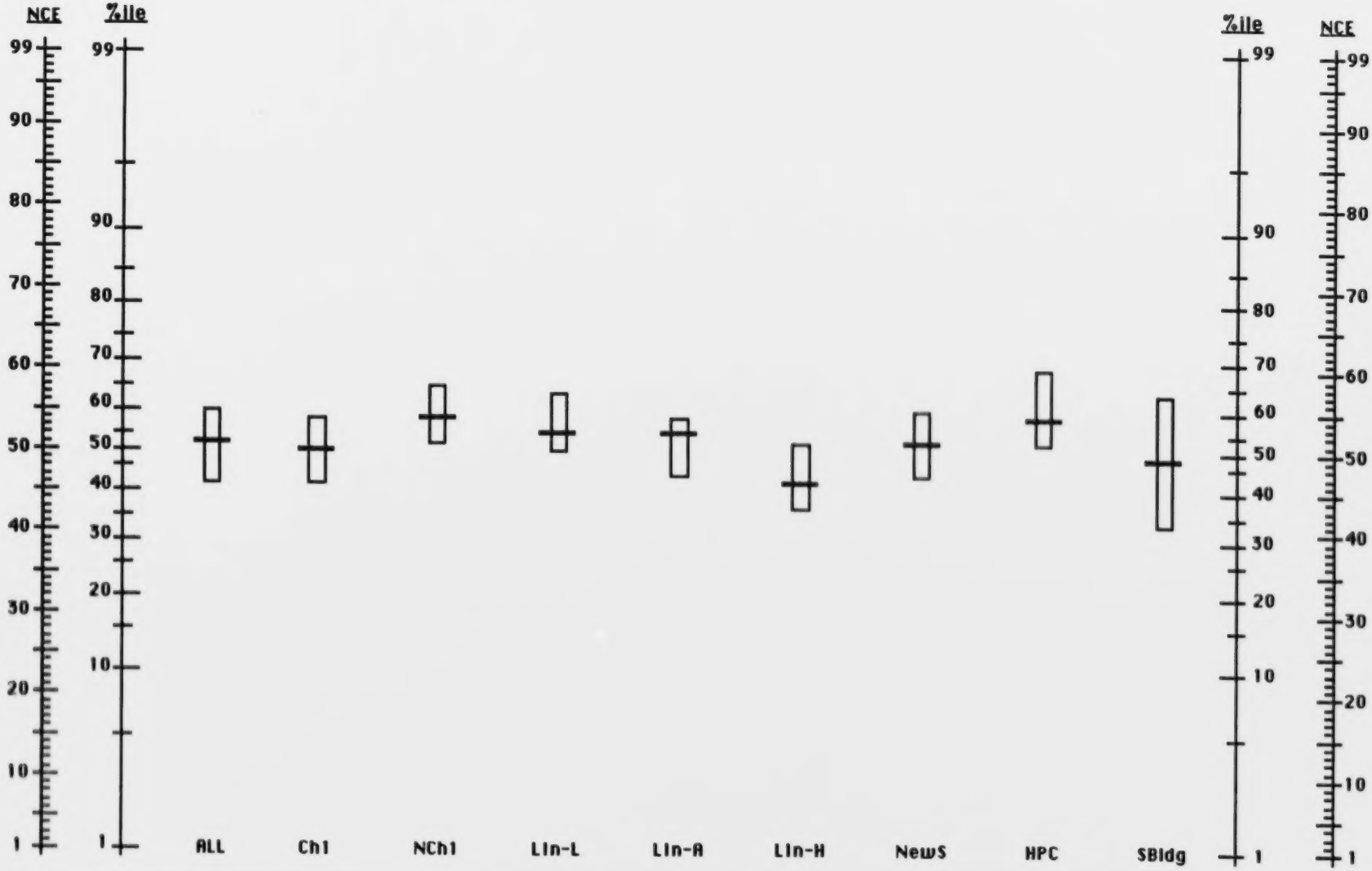


FIGURE 31. GRADE 8, READING
Middle Ranges of Building Median Percentile Scores

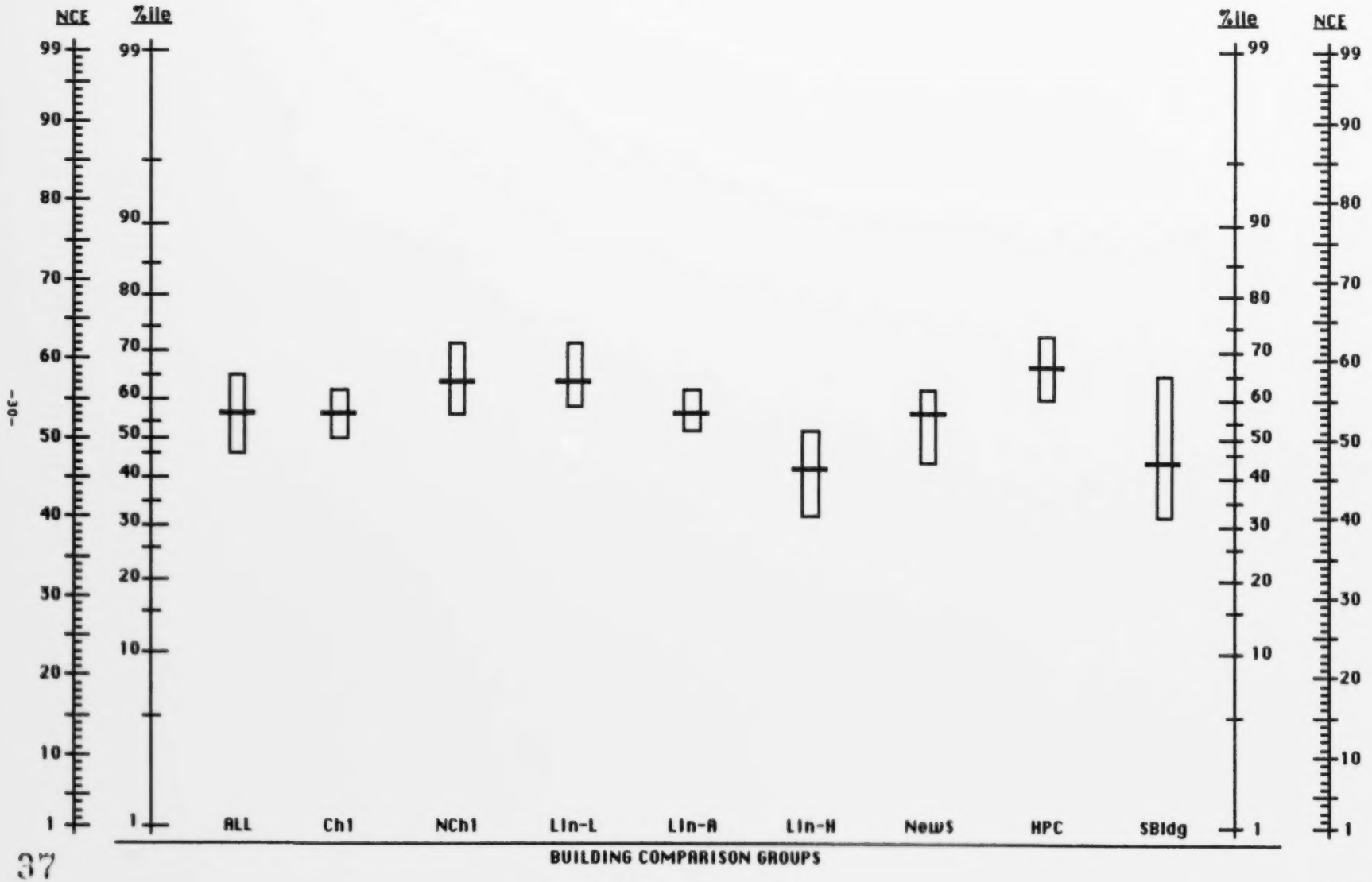


FIGURE 32. GRADE 8, MATH
Middle Ranges of Building Median Percentile Scores

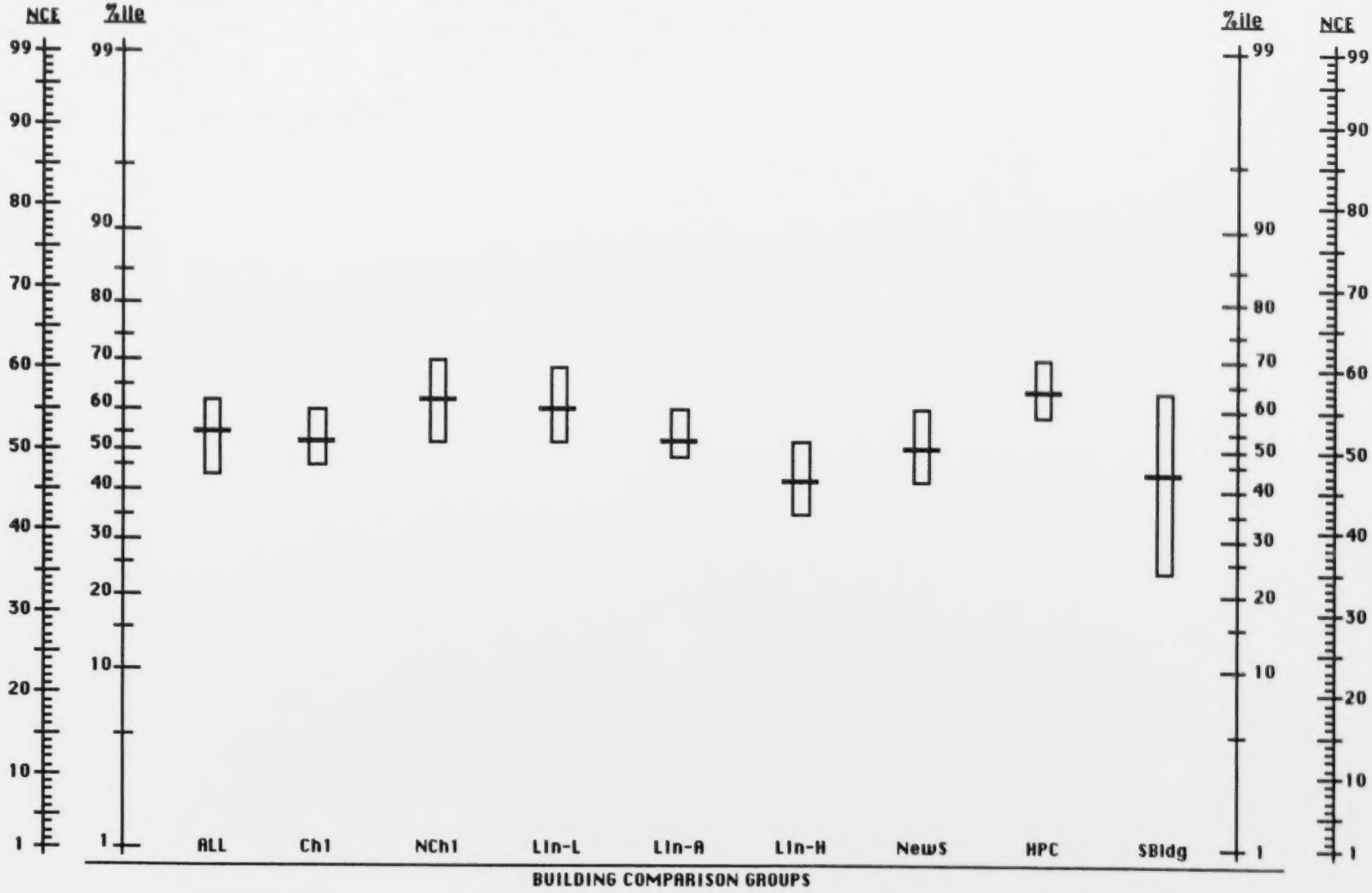


FIGURE 33. GRADE 8, LANGUAGE
Middle Ranges of Building Median Percentile Scores

FIGURE 34. GRADE 10, READING
Middle Ranges of Building Median Percentile Scores

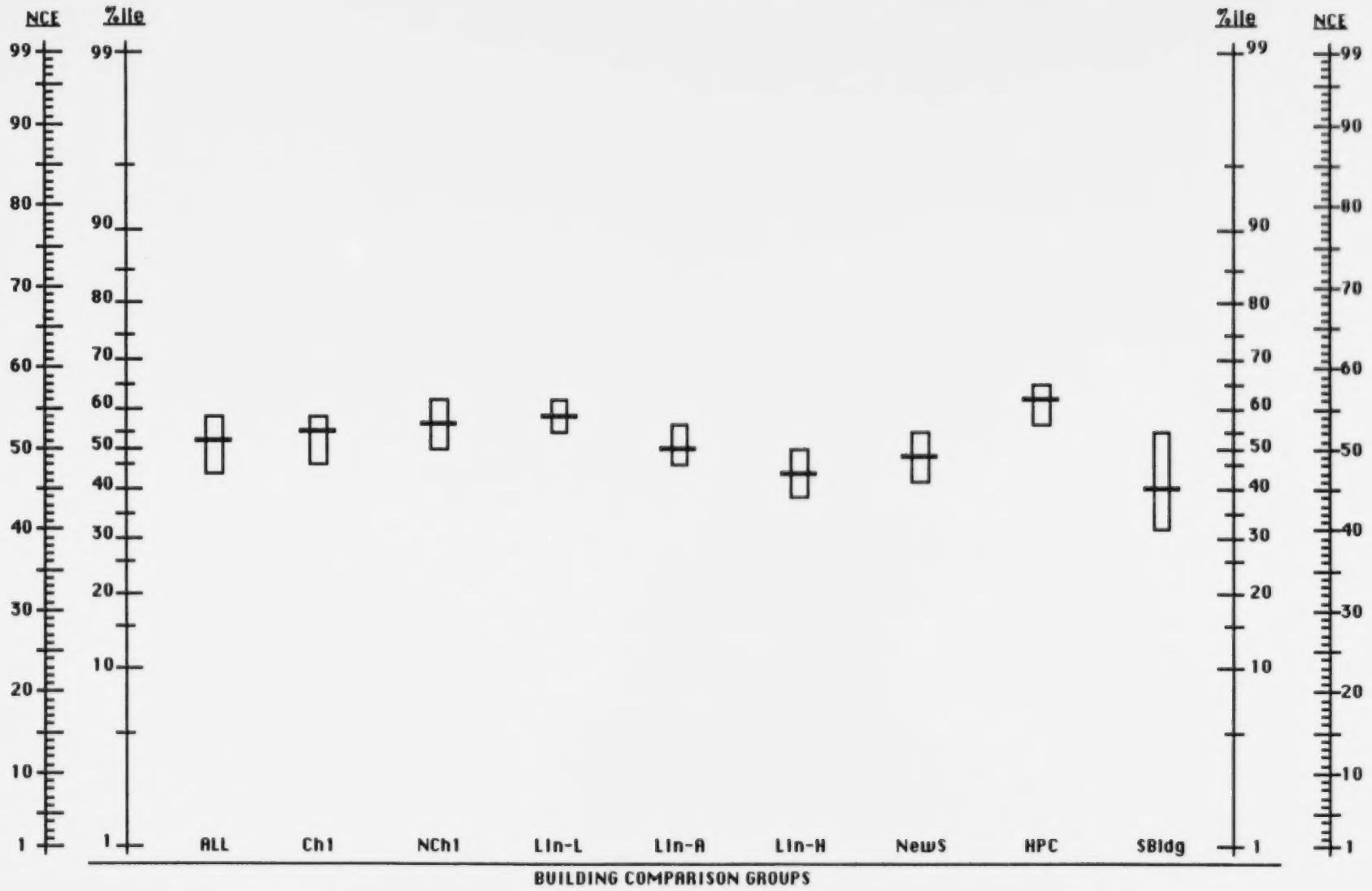


FIGURE 35. GRADE 10, MATH
Middle Ranges of Building Median Percentile Scores

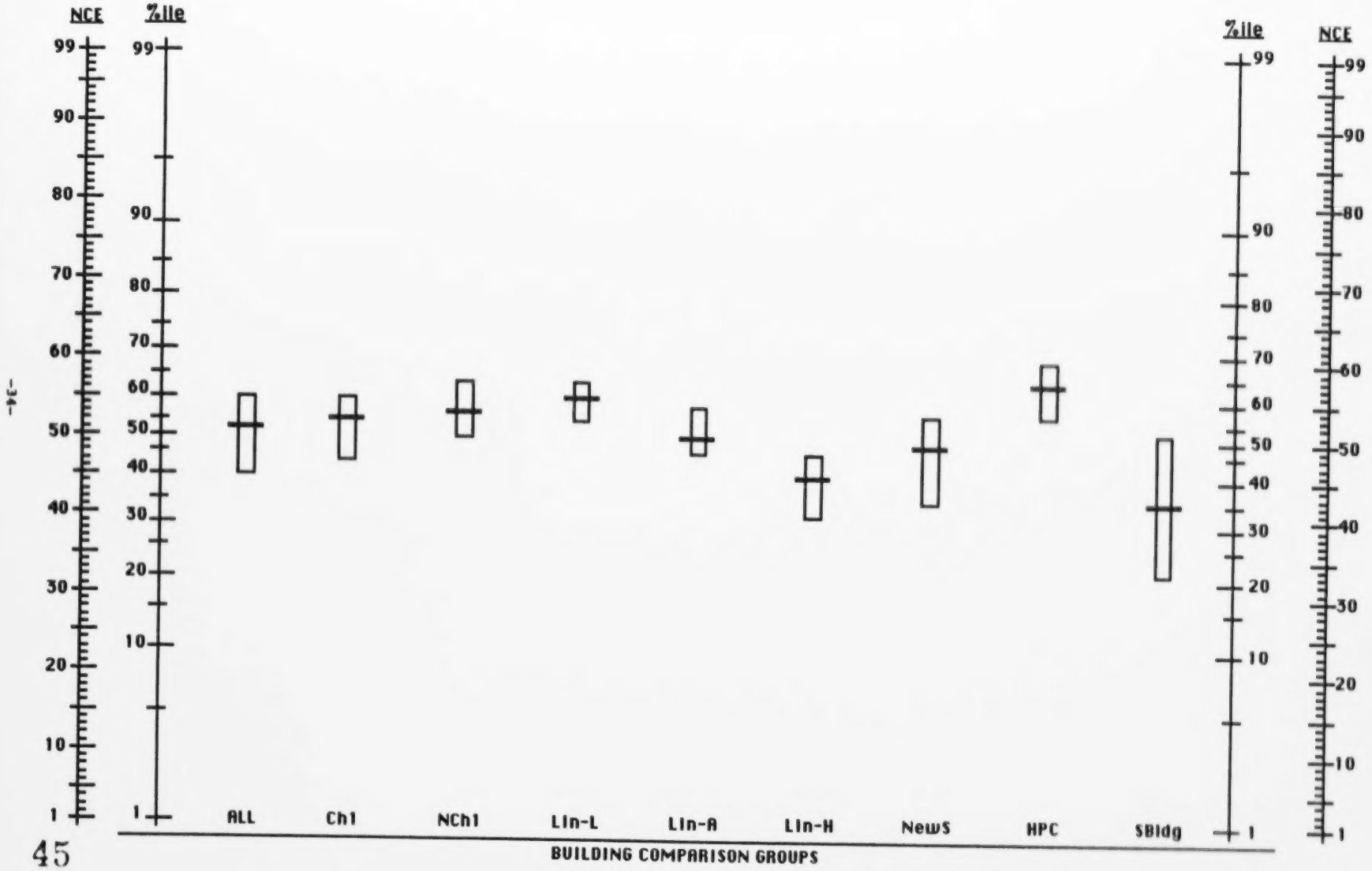
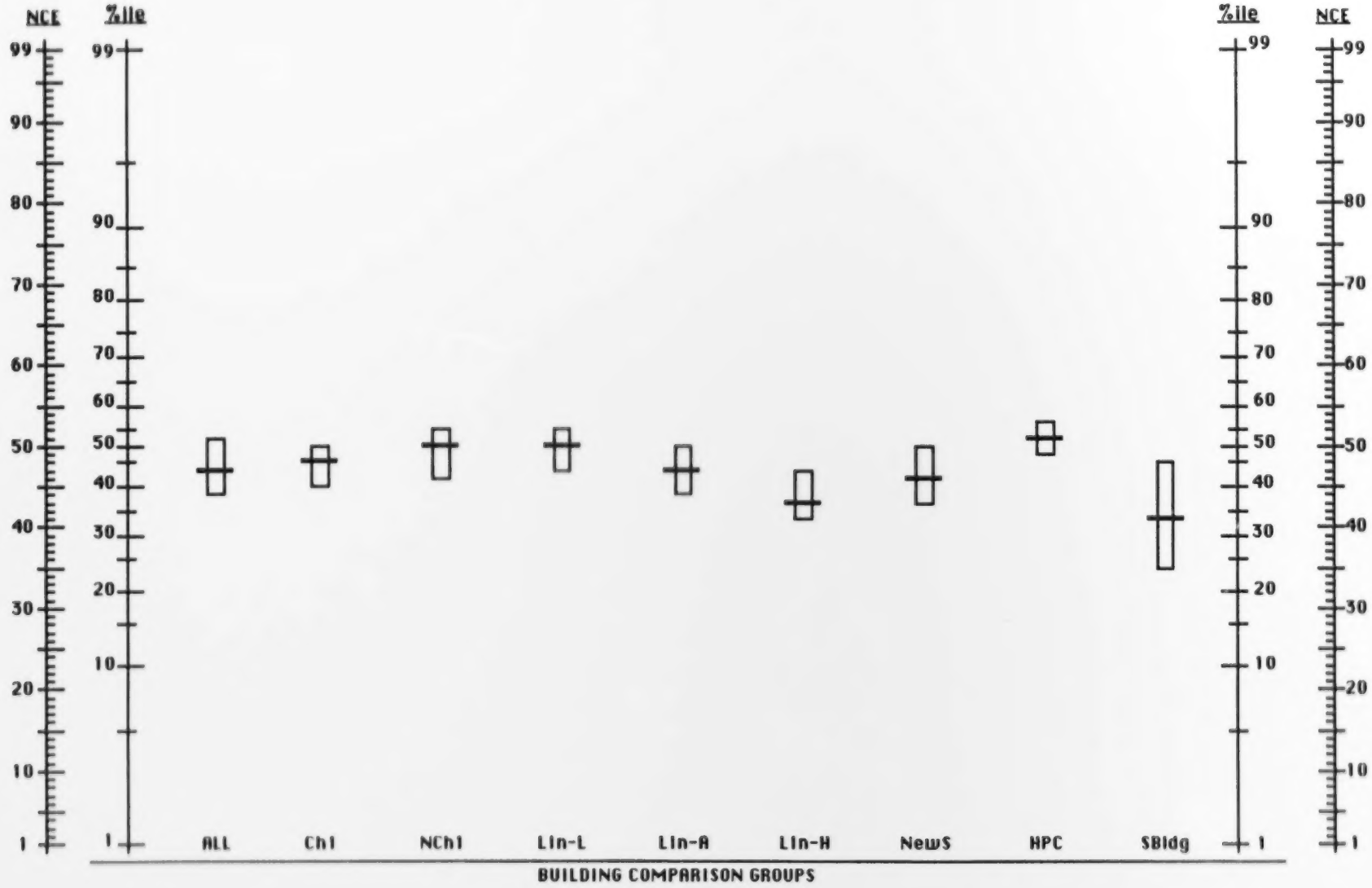


FIGURE 36. GRADE 10, LANGUAGE
Middle Ranges of Building Median Percentile Scores



Requests for more information about the
Washington Statewide Assessment Program should be addressed to:

Testing and Evaluation
Office of Superintendent of Public Instruction
Old Capitol Building, Mail Stop FG-11
Olympia, WA 98504
Telephone: (206) 753-3449 or SCAN 234-3449

DR. FRANK B. BROUILLET
Superintendent of Public Instruction

Old Capitol Building, FG-11, Olympia, WA 98504

AS/103/88